

MANUFACTURERS' RECORD

A WEEKLY SOUTHERN INDUSTRIAL
RAILROAD AND FINANCIAL NEWSPAPER.

HELP WANTED SITUATIONS WANTED

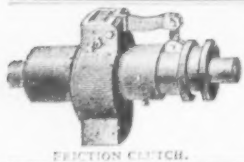
Advertisements under these two headings will be published free of charge in the MANUFACTURERS' RECORD. Such advertisements must not exceed four lines, or about twenty-five words, and four consecutive insertions will be given in our columns without charge. Replies addressed in our care will be forwarded to advertisers. The extended circulation of the MANUFACTURERS' RECORD and the care with which its pages are read make this opportunity one of exceptional value. We offer it freely to our patrons and friends, and ask them to make liberal use of it.

THE FULL TABLE OF CONTENTS WILL BE FOUND ON PAGE 80.

VOL. XXII.
No. 4.

\$4.00 per year.
Single Copy
10 Cents.

Baltimore, August 26, 1892.



FRICTION CLUTCH.

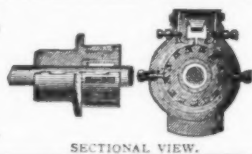
THE JAMES SMITH WOOLEN MACHINERY CO.

WOOLEN MACHINERY AND CARD CLOTHING OF EVERY DESCRIPTION.
SHAFTING, HANGERS, PULLEYS AND FRICTION CLUTCHES.

Hub Friction Clutch Pulleys will run 1,000 Revolutions.

411 to 421 Race Street,

PHILADELPHIA, PA.



SECTIONAL VIEW.

SPECIAL NOTICE.

BRANCH OFFICES

1000 Queen Victoria St., London, E. C. 1, Eng.
100 W. Washington St., Chicago, Ill.
100 St. James Street, Montreal, Can.
100 Congress St., Boston, Mass.
10 N. Fourth St., St. Louis, Mo.
10 S. Water St., Cleveland, Ohio.

Two handsome photo-engraved display sheets entitled
"RECENT IMPROVEMENTS IN AIR COMPRESSORS,"
"RECENT IMPROVEMENTS IN ROCK DRILLS,"

mailed free to any one who will cut out this advertisement and mail it to us with his name and address.

THE INGERSOLL-SERGEANT DRILL CO., NO. 10 PARK PLACE, NEW YORK

The BROWN HOISTING & CONVEYING MACHINE CO., CLEVELAND, OHIO, U. S. A.

MANUFACTURERS AND SOLE PROPRIETORS OF THE PATENTS, APPLICATIONS AND DESIGNS UNDER WHICH THE BROWN HOISTING AND CONVEYING APPARATUS AND VARIOUS TRAMWAYS FOR IT ARE BUILT.

NEW AND COMPLETE LABOR-SAVING SYSTEMS FOR HANDLING OF MATERIALS OF ALL KINDS. MACHINERY SPECIALLY ADAPTED FOR HANDLING PHOSPHATE.

The Brown Patent

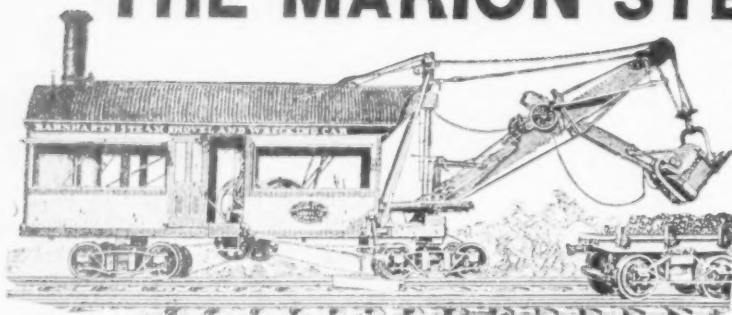
Cable Tramway System.
Suspended Beam Tramway System
Bridge Tramway System.

Shed Tramway System.
Warehouse Tramway System.
Sewer Machine Tramway System.
Continuous Elevated Tramway System

THE FAYETTE-BROWN PATENT AUTOMATIC FURNACE HOIST.

THE MARION STEAM SHOVEL CO.

MANUFACTURERS OF

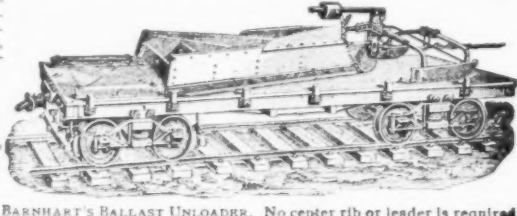


Barnhart's Steam Shovels, Dredges, Ditching Dredges, Railroad Ditchers, Wreckers, Ballast Unloaders, etc. Our Steam Shovels are largely used on Railroads and by Contractors, Brick Manufacturers, and in excavating Iron Ore, Handling Stock Ore, Stripping Coal Fields and Stone Quarries, and are a most desirable machine for any use where excavating machinery can be used. All of our machines guaranteed to give entire satisfaction; otherwise may be returned at our expense. For illustrated Catalogue, Photographs, and any further information desired, address

THE
Marion Steam Shovel Co.

601 WEST CENTRE ST.

Marion, Ohio.



BARNHART'S BALLAST UNLOADER. No center rib or leader is required.

THE SOUTHERN SAW MFG. CO.

ATLANTA, GA.

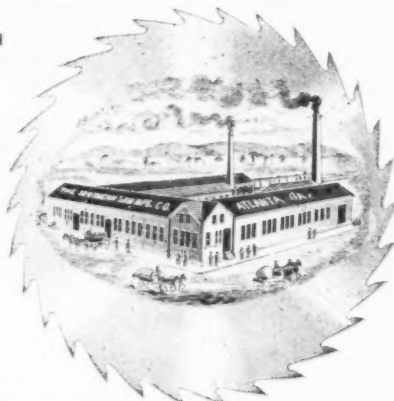
Manufacturers of

Highest Grade Saws

Also Dealers in Saw Mill Specialties.

OUR INSERTED TOOTH SAWS have been thoroughly tested on all feeds and in all kinds of timber. Saw mill men concede it to be the strongest and easiest adjusted on the market. We guarantee price and quality.

Prompt Attention Given to All Kinds of Repair Work and Satisfaction Guaranteed.
Write for Catalogue and Prices.



The National Machinery Co.

Complete Outfits for Bolt and Nut Shops.

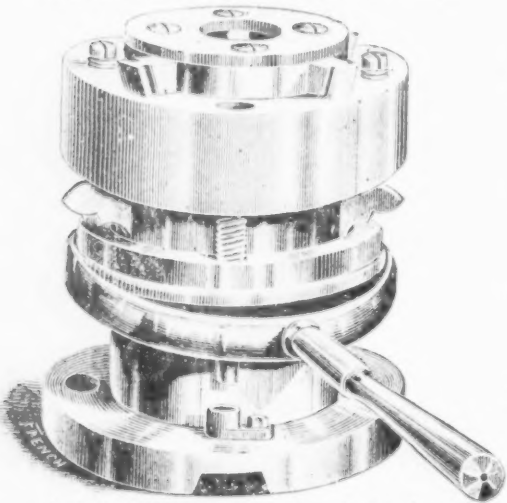
TIFFIN, OHIO.

Catalogue and Prices on Application.

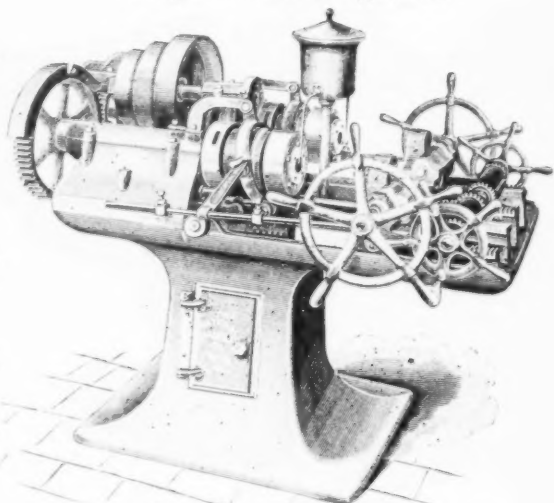
SPECIALISTS IN

BOLT and NUT MACHINERY.

BOLT CUTTERS,
BOLT POINTERS,
NUT MACHINES,
BOLT HEADERS,
NUT TAPPERS,
UPSETTERS & BENDERS,
CAR LINK AND
CAR PIN MACHINERY,
WASHER MACHINES,
ROCK AND ORE BREAKERS.



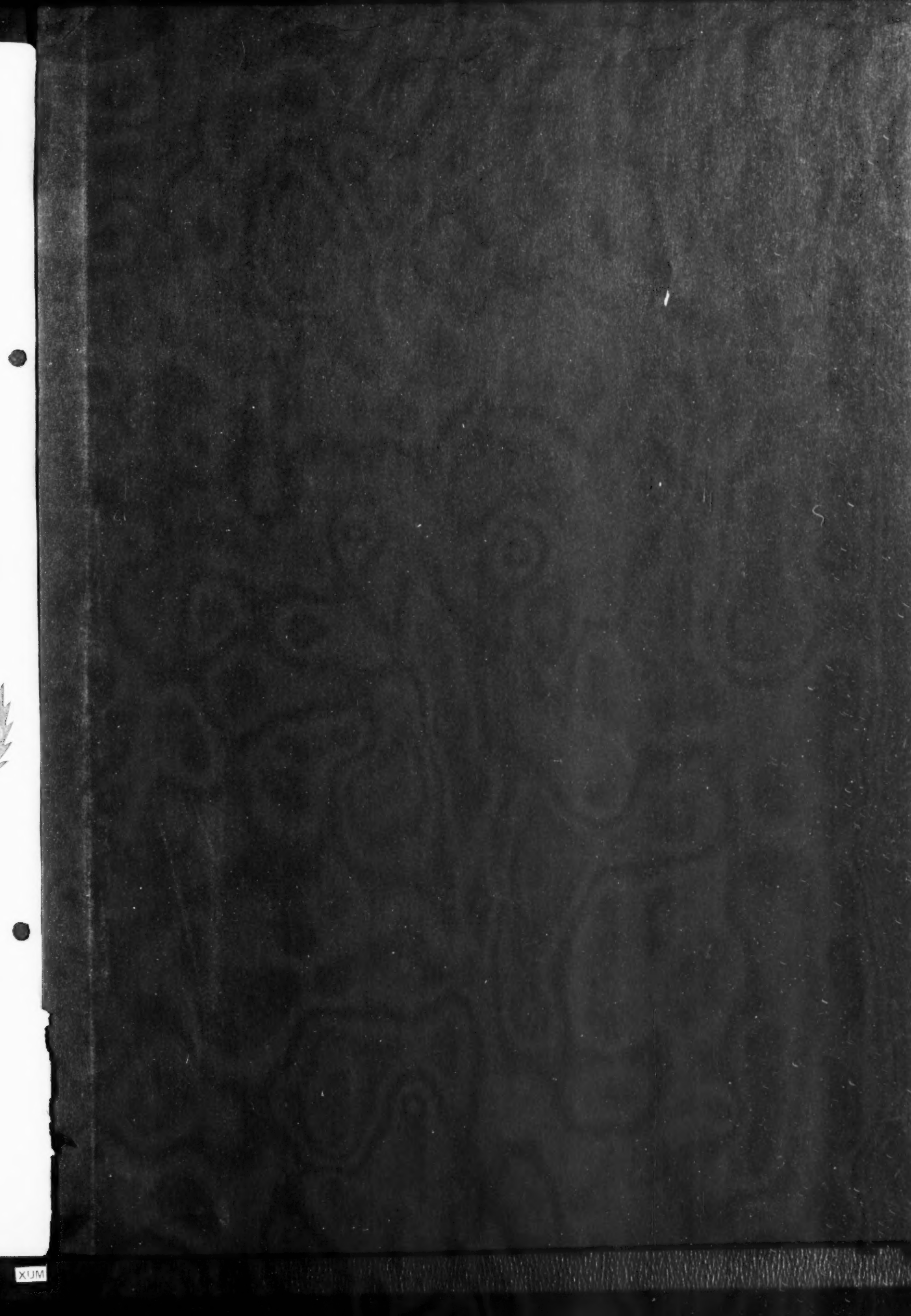
NATIONAL HEADS, Cutting 1/4 in. to 8 inches.



1 1/2 INCH DOUBLE BOLT CUTTER.

Clean Your Boiler Tubes with Abrams Expansion Flue Brush.

Write ST. LOUIS STEEL WIRE BRUSH CO.
ST. LOUIS, MO., for Circular.





CLASSIFIED INDEX OF ADVERTISERS.

FOR "ALPHABETICAL INDEX" SEE PAGE 46.

Acid Chambers.

Charleston Lead Co., Charleston, S. C.

Air Compressors.Ingersoll-Sergeant Rock D. Co., New York, N. Y.
Morris Machine & Iron Co., Dover, N. J.
Rand Drill Co., New York, N. Y.**Anti-Friction Metal.**America Improved Anti-Friction Metal Co.,
Mobile, Ala.
Electron Metal Co., New York, N. Y.**Architects.**A. G. Bauer, Raleigh, N. C.
Gustaf Bottiger, Winston, N. C.
D. G. Zeigler, Charleston, S. C.
Chas. H. Read, Jr., Richmond, Va.
John C. Knight, Boston, Mass.
Wilson & Huggins, Roanoke, Va.
Griswold & Nunan, Owensboro, Ky.
Collins & Hackett, Staunton, Va.
C. R. Makepeace & Co., Providence, R. I.
Lockwood, Greene & Co., Boston, Mass.
Drew, Baldwin & Co., New York, N. Y.**Architectural Iron Works.**Toledo Wire & Iron Works, Toledo, O.
Toledo Cornice Works, Toledo, O.
Cushman Iron Co., Roanoke, Va.
Belmont Iron Works, Philadelphia, Pa.
Champion Iron Co., Kenton, O.
J. E. Bolles & Co., Detroit, Mich.
Fred J. Meyers Mfg. Co., Covington, Ky.
T. H. Brooks & Co., Cleveland, O.**Automatic Sprinklers.**Prov. Steam & Gas Pipe Co., Providence, R. I.
Neracher & Hill Sprinkler Co., Warren, O.**Bankers and Brokers.**Godfrey & Train, New York, N. Y.
Hopkins, Dwight & Co., New York, N. Y.
Edward Morton & Co., New York, N. Y.
Exchange Banking & Trust Co., Charleston, S. C.
von Hemert & Co., Roanoke, Va.
N. W. Harris & Co., New York, N. Y.
Jno. L. Williams & Son, Richmond, Va.
Middendorf, Oliver & Co., Baltimore, Md.**Barrel Machinery.** [See *Woodworking Machinery.*]

E. & B. Holmes, Buffalo, N. Y.

Bath Tubs.

Haines, Jones & Cadbury Co., Philadelphia, Pa.

Bearings.North American Metalline Co., Long Island
City, N. Y.**Belting.**E. M. Freese & Co., Galion, O.
W. W. Marmaduke, Washington, Ind.
Cameron & Barkley Co., Charleston, S. C.
Henry Popham & Son, East Newark, N. J.
Main Belting Co., Philadelphia, Pa.
Chesapeake Belting Co., Baltimore, Md.
Gandy Belting Co., Baltimore, Md.
Shultz Belting Co., St. Louis, Mo.**Beltin.** (Chain.)F. H. C. Mey, Buffalo, N. Y.
Jeffery Manufacturing Co., Columbus, O.
Link-Belt Engineering Co., Nicetown (Phila.), Pa.**Blacksmiths' Tools.**

Foos Manufacturing Co., Springfield, O.

Blinds.Adams & Woodson, Lynchburg, Va.
Menroe Manufacturing Co., Lima, O.**Blowers and Exhaust Fans.**New England Ventilating & Heating Co.,
Providence, R. I.
Akron Heating & Ventilating Co., Barberton, O.
West & Branch, Richmond, Va.
Davidson Ventilating Fan Co., Boston, Mass.
Geo. P. Clark, Windsor Locks, Conn.
B. F. Sturtevant Co., Boston, Mass.**Boiler Fronts and Fittings.**

Vulcan Iron Works Co., Toledo, O.

Boilers. [See also *Machinery.*]Delbert Engineering Co., Limited, New Or-
leans, La.
W. C. Leffel Co., Springfield, O.
John E. Beggs Machinery & Supply Co., New
York, N. Y.
Golley & Finley Iron Works, Lima, O.
Ravenna Boiler Works, Ravenna, O.
J. H. McEwen Mfg. Co., Ridgway, Pa.
Carolina Machine Co., Fayetteville, N. C.
New York Central Iron Wks. Co., Geneva, N. Y.
Cameron & Barkley Co., Charleston, S. C.
Holyoke Steam Boiler & Iron Works, Holy-
oke, Mass.
Geo. M. Clapp, New York.
Cline Engine & Machine Co., Plymouth, O.
Harrisburg Foundry & Machine Works, Har-
risburg, Pa.
American Well Works, Aurora, Ill.
Bass Foundry & Mach. Works, Ft. Wayne, Ind.
Geo. R. Lombard & Co., Augusta, Ga.
Geo. J. Fritz, St. Louis, Mo.
Chandler & Taylor Co., Indianapolis, Ind.
Enterprise Boiler Co., Youngstown, O.
Taylor Engine Co., Chambersburg, Pa.
West & Branch, Richmond, Va.
H. P. Edmond, Richmond, Va.**Richmond Locomotive & Machine Works.**Richmond, Va.
Struthers, Wells & Co., Warren, Pa.
Babcock & Wilcox Co., New York, N. Y.
H. Dudley Coleman Machinery Co., Limited,
New Orleans, La.
Greer Machinery Co., Knoxville, Tenn.
N. Y. Safety Steam Power Co., New York, N. Y.
Buckeye Engine Co., Salem, O.
Stearns Manufacturing Co., Erie, Pa.
Smith-Courtney Co., Richmond, Va.
Skinner Engine Co., Erie, Pa.
Talbot & Sons, Richmond, Va.
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Cleveland & Hardwick, Erie, Pa.
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Valk & Murdoch Iron Works, Charleston, S. C.
Frick Co., Waynesboro, Pa.
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Webster, Camp & Lane Machine Co., Akron, O.**Boiler Appliances.**Sherwood Manufacturing Co., Buffalo, N. Y.
Hine & Robertson, New York, N. Y.
Jas. Berryman, Philadelphia, Pa.
Penberthy Injector Co., Detroit, Mich.
Jenkins Bros., New York, N. Y.
American Well Works, Aurora, Ill.
Stillwell & Bierce Mfg. Co., Dayton, O.**Bolt and Nut Machinery.**

National Machinery Co., Tiffin, O.

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Pennsylvania Steel Co., Steelton, Pa.
Hoopes & Townsend, Philadelphia, Pa.**Brick.**Washington Hydraulic Press Brick Co., Wash-
ington, D. C.
Coaldale Brick & Tile Co., Birmingham, Ala.**Brick and Clayworking Machinery and Supplies.**Central Machine Works, Cleveland, O.
Cyclone Pulverizer Co., New York, N. Y.
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Kells & Sons, Adrian, Mich.
George Carnell, Philadelphia, Pa.
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Co., Cleveland, O.
Whitman Agricultural Co., St. Louis, Mo.
P. L. Sword & Son, Cleveland, O.
C. & A. Fotts & Co., Indianapolis, Ind.
Anderson Fdy. & Mach. Wks., Anderson, Ind.
H. Brewer & Co., Tecumseh, Mich.
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J. W. Penfield & Son, Willoughby, O.
Frey-Sheckler Co., Bucyrus, O.
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Texas Coal Tar & Asphaltum Co., Dallas, Tex.**Business Opportunities.**Dr. T. G. Croft, Aiken, S. C.
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A. K. Robbins & Co., Baltimore, Md.
C. G. Goodrich, President, Augusta, Ga.
S. B. Mosby & Co., Bedford City, Va.
Box 486, Atlanta, Ga."Electric," care of MANUFACTURERS' RECORD,
T. H. Sampson, New Orleans, La.

P. Duvinage & Co., Brooklyn, N. Y.

Planing Mill, care MANUFACTURERS' RECORD,
M. V. Richards, Baltimore, Md.**Canning Machinery.**S. D. Warfield Co., Baltimore, Md.
Niagara Stamping & Tool Co., Buffalo, N. Y.**Card Clothing.** [See *Textile Machinery and Supplies.*]**Cars.** [See *Railroad Equipment and Supplies.*]**Car Wheels.**

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Todd Pulley & Shafting Works East St.
Louis, Ill.
Haight & Clark, Albany, N. Y.
A. Whitney & Sons, Philadelphia, Pa.
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Vulcan Iron Works Co., Toledo, O.**Castings.** (Steel.)

Chester Steel Castings Co., Philadelphia, Pa.

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Walter M. Stein, Philadelphia, Pa.
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phia, Pa.
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Vulcan Iron Works Co., Toledo, O.
Marion Steam Shovel Co., Marion, O.
F. C. Austin Manufacturing Co., Chicago, Ill.
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Whitman Agricultural Co., St. Louis, Mo.
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Arthur L. Stevens, Philadelphia, Pa.
S. W. Frescoln, New York, N. Y.
Julian Kennedy, Pittsburg, Pa.
W. H. Gibbs, Jr., & Co., Columbia, S. C.
N. Y. Safety Steam Power Co., New York, N. Y.**Conveyors.**Brown Hoisting & Conveying Machine Co.,
Cleveland, O.
Webster Manufacturing Co., Chicago, Ill.
P. M. Walton, Philadelphia, Pa.
Walker & Elliott, Wilmington, Del.
F. H. C. Mey, Buffalo, N. Y.
Weller Manufacturing Co., Chicago, Ill.
W. J. Clark & Co., Salem, O.
H. W. Caldwell & Son Co., Chicago, Ill.
McLanahan & Stone, Hollidaysburg, Pa.
The Jeffery Manufacturing Co., Columbus, O.
Link-Belt Engineering Co., Nicetown (Phila.), Pa.**Cord.** (Bell, Sash, Arc Light, Trolley, etc.)

Sampson Cordage Works, Boston, Mass.

Corrugated Iron.Cambridge Roofing Co., Cambridge, O.
Fostoria Steel Roofing Co., Fostoria, O.
Acme Roofing Co., Canton, O.
J. H. Eller & Co., Canton, O.
Canton Steel Roofing Co., Canton, O.
Cincinnati Corrugating Co., Cincinnati, O.
Holton Iron Roofing Co., New Lisbon, O.
Kanneberg Roofing Co., Canton, O.
Globe Iron Roofing & Corru. Co., Cincinnati, O.**Cotton Gin Machinery.**National Cotton Gin Co., Boston, Mass.
Carver Cotton Gin Co., East Bridgewater, Mass.
Dudley E. Jones Co., Little Rock, Ark.
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Talbot & Sons, Richmond, Va.
Van Winkle Gin & Machinery Co., Atlanta, Ga.**Cottonseed-oil Machinery.**Carver Cotton Gin Co., East Bridgewater, Mass.
Cardwell Machine Co., Richmond, Va.
George J. Fritz, St. Louis, Mo.
G. H. Bushnell Co., Thompsonville, Conn.
Van Winkle Gin & Machinery Co., Atlanta, Ga.
Talbot & Sons, Richmond, Va.**Cranes.**Maris Machine Co., Philadelphia, Pa.
Walker Manufacturing Co., Cleveland, O.**Crushers.** (Corn and Cob.)Sprout, Waldron & Co., Muncy, Pa.
Munson Bros., Utica, N. Y.
Union Foundry & Machine Wks., Mansfield, O.
M. C. Cogswell, New York, N. Y.**Crushers and Breakers.** (Ore, Rock, etc.)Bradley Fertilizer Co., Boston, Mass.
Copeland & Bacon, New York, N. Y.
Foos Manufacturing Co., Springfield, O.
James H. Lancaster, New York, N. Y.
Cyclone Pulverizer Co., New York, N. Y.
F. D. Cummer & Son Co., Cleveland, O.
W. F. Mosser & Son, Allentown, Pa.
Raymond Bros. Impact Pulverizer Co., Chi-
cago, Ill.
Union Foundry & Mach. Wks., Rockaway, N. J.
Thompson & Campbell, Philadelphia, Pa.
J. R. Alsing Co., New York, N. Y.
National Machinery Co., Tiffin, O.
P. M. Walton, Philadelphia, Pa.
Munson Bros., Utica, N. Y.
Sprout, Waldron & Co., Muncy, Pa.
Sturtevant Mill Co., Boston, Mass.
Gates Iron Works, Chicago, Ill.
American Ore Machinery Co., New York, N. Y.
Frisbee-Lucop Mill Co., New York, N. Y.
Stedman's Fdry. & Mach. Works, Aurora, Ind.
Walker & Elliott, Wilmington, Del.
Lloyd Booth Co., Youngstown, O.
James Murray & Son, Baltimore, Md.**Culvert and Sewer-Pipe.** (Clay.)

Henry Stevens's Sons, Macon, Ga.

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Sherwood Manufacturing Co., Buffalo, N. Y.
Crescent Manufacturing Co., Cleveland, O.**Cutter Heads.**

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Derrieks.

Contractors' Plant Mfg. Co., Buffalo, N. Y.

Draughtsmen.

A. N. Houghton, Boston, Mass.

Dredges and Steam Shovels.Vulcan Iron Works Co., Toledo, O.
Urie Dredge Mfg. Co., Kansas City, Mo.
Marion Steam Shovel Co., Marion, O.
Copeland & Bacon, Philadelphia, Pa.
Bucyrus Stm. Shovel & Dredge Co., Bucyrus, O.**Drills.** (Prospecting.)Sullivan Machinery Co., successor to Diamond
Prospecting Co., Chicago, Ill.
M. C. Bullock Manufacturing Co., Chicago, Ill.**Drills.** (Rock.)Sullivan Machinery Co., successor to Diamond
Prospecting Co., Chicago, Ill.
M. C. Bullock Manufacturing Co., Chicago, Ill.
Rand Drill Co., New York, N. Y.
Ingersoll-Sergeant Rock D. Co., New York, N. Y.**Drills.** (Wood and Metal.)Graham Twist Drill & Chuck Co., Detroit,
Mich.
New Process Twist Drill Co., Taunton, Mass.
Cincinnati Tool Works, Cincinnati, O.
Syracuse Twist Drill Co., Syracuse, N. Y.
Silver Manufacturing Co., Salem, O.
W. F. & Jno. Barnes Co., Rockford, Ill.
Cleveland Twist Drill Co., Cleveland, O.
Lodge & Davis Machine Tool Co., Cincinnati, O.
Foos Manufacturing Co., Springfield, O.**Dry Kilns.**F. D. Cummer & Son Co., Cleveland, O.
Dewey Bros., Goldsboro, N. C.
Akron Heating & Ventilating Co., Barberton, O.
B. F. Sturtevant Co., Boston, Mass.**Ejectors.**

Sherwood Manufacturing Co., Buffalo, N. Y.

Electric Lighting.John E. Beggs Machinery & Supply Co., New
York, N. Y.
Hall Engineering Co., St. Louis, Mo.
Jordan & MacLead, Washington, D. C.
H. Ward Leonard & Co., New York, N. Y.
S. D. Warfield Co., Baltimore, Md.
Rockford Electric Mfg. Co., Rockford, Ill.
Smith, Saunders & Collins, Newton, N. C.
Edison General Electric Co., New York, N. Y.
Helsier Electric Co., Philadelphia, Pa.**Electric Railway and Motors.**John E. Beggs Machinery & Supply Co., New
York, N. Y.Hall Engineering Co., St. Louis, Mo.
Jordan & MacLead, Washington, D. C.
H. Ward Leonard & Co., New York, N. Y.
Rockford Electric Mfg. Co., Rockford, Ill.
S. W. Frescoln, New York, N. Y.
Edison General Electric Co., New York, N. Y.**Electrical Supplies.**Jordan & MacLead, Washington, D. C.
John Simmons Co., New York, N. Y.



VULCAN IRON WORKS CO.

Our "GIANT" EXCAVATOR,
Weight, 40 tons; Capacity,
2000 cubic yards per day.

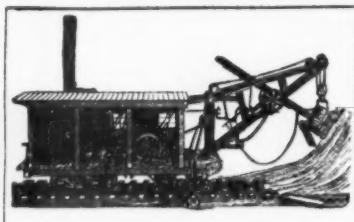
Toledo, Ohio, U. S. A.

MANUFACTURERS OF
DREDGES AND EXCAVATORS,
BOILER FRONTS
AND
RAILROAD CASTINGS.

The "LITTLE GIANT"
Excavator,

Weight, 20 tons; capacity, 1500
cubic yards per day. Especially
well adapted for all contract
work.

DREDGES & SHOVELS



STEAM DREDGES,

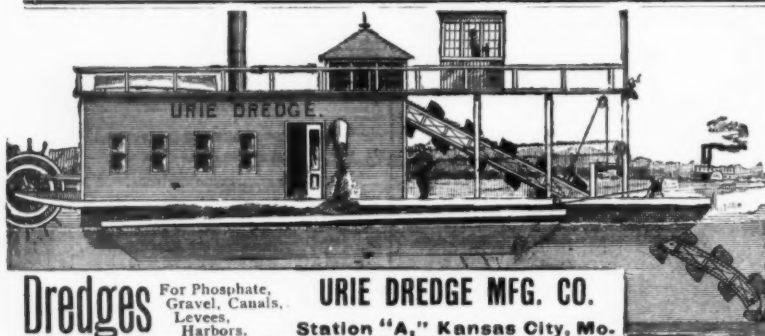
For Drainage and Irrigation,
Filling Land, Levee Work,
Harbor Work, Etc.

STEAM SHOVELS,

For Railroads, Contract Work,
Stripping Coal and Ore,
Brickyards, Highways, Etc.

Bucyrus Steam Shovel & Dredge Co.

BUCYRUS, OHIO.

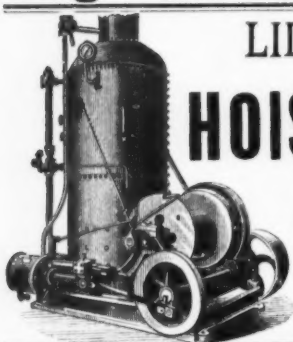


Dredges

For Phosphate,
Gravel, Canals,
Levees,
Harbors.

URIE DREDGE MFG. CO.

Station "A," Kansas City, Mo.



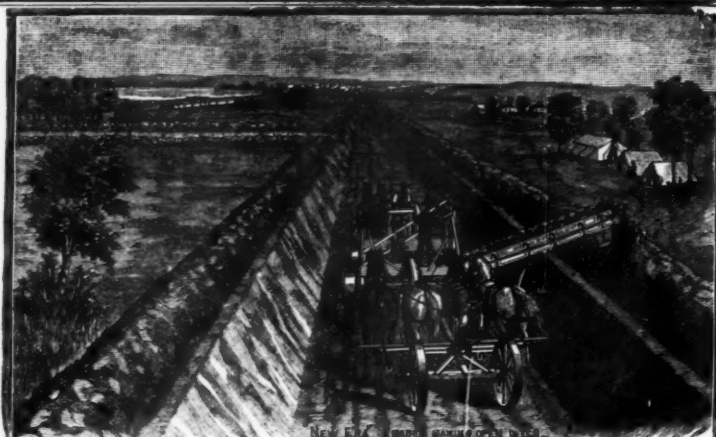
LIDGERWOOD MFG. CO.

MANUFACTURERS OF IMPROVED

HOISTING ENGINES

Specially adapted for Railroad and Contractors' uses,
Pile Driving, Bridge and Dock Building, Excavating, etc.
300 Styles and Sizes and over 8,500 in use.

96 Liberty Street, New York.
15 N. 7th Street, Philadelphia, Pa.
34 and 36 W. Monroe Street, Chicago.
197 to 203 Congress Street, Boston.
57 North First Street, Portland, Ore.
610 North Fourth Street, St. Louis.
SALES AGENTS—FRASER & CHALMERS, Salt Lake City, Utah, and
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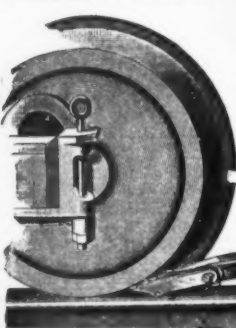
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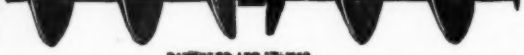


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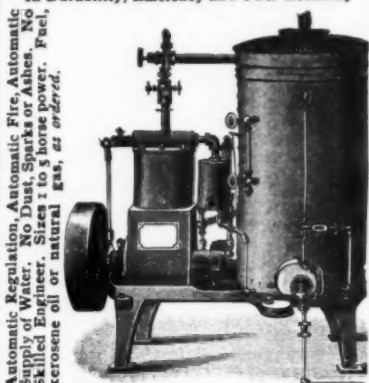
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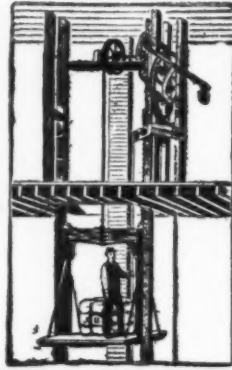
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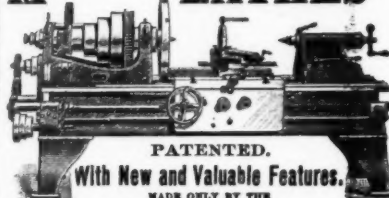
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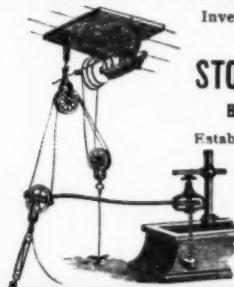
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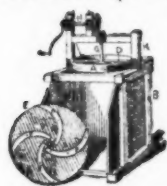
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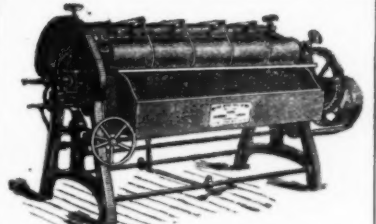
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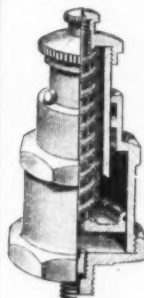
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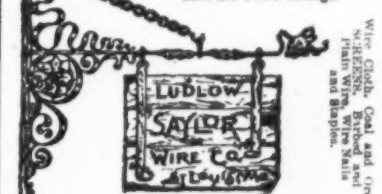
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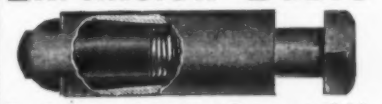
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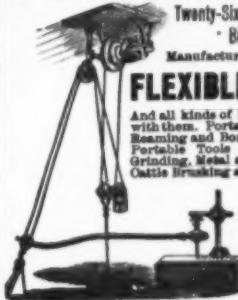
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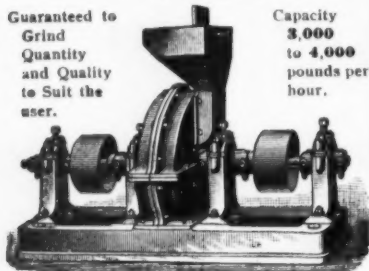
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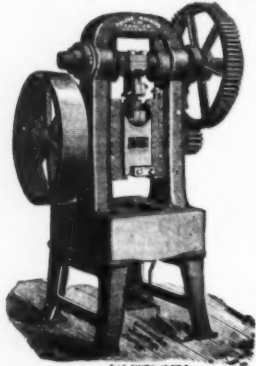
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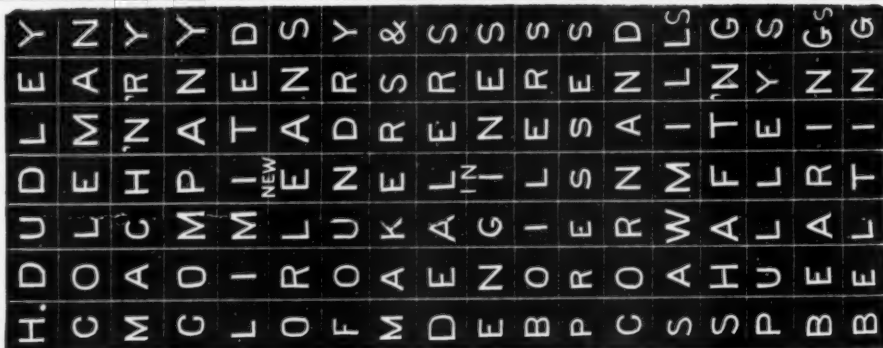
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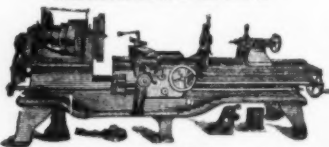
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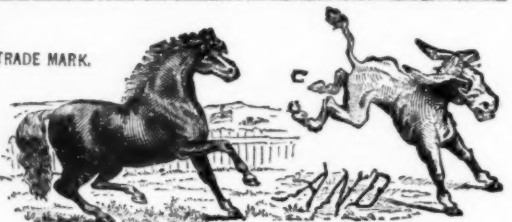
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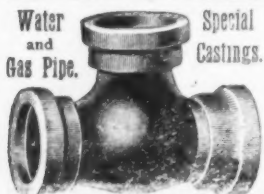
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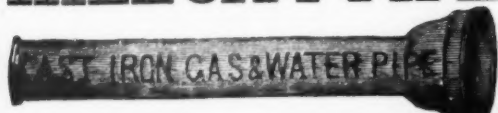
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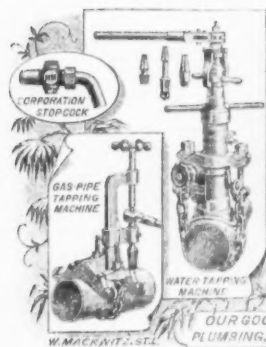
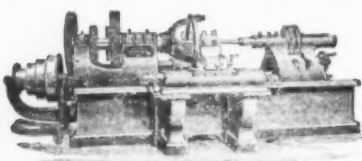
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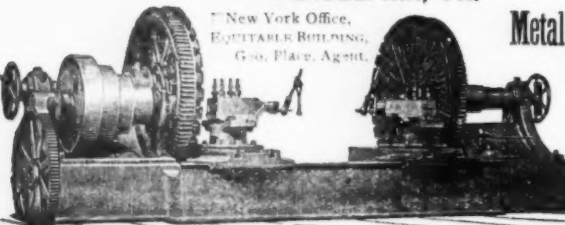
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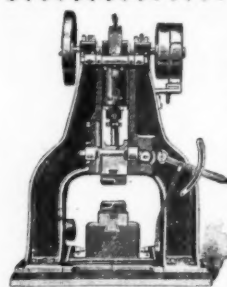
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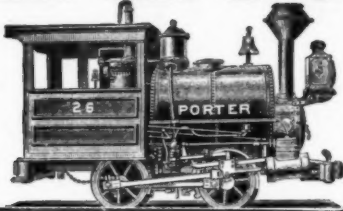
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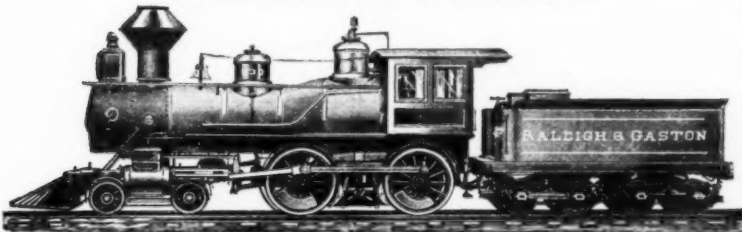


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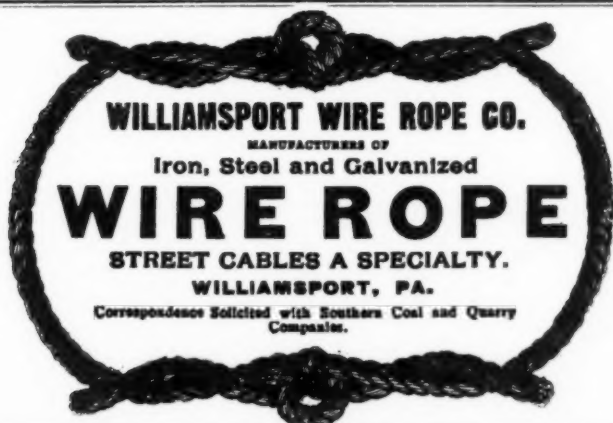
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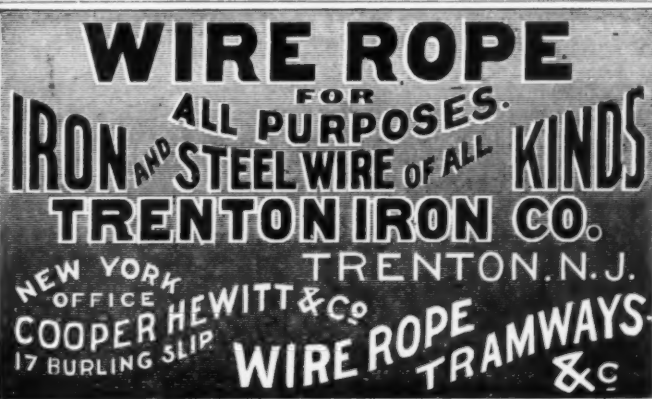
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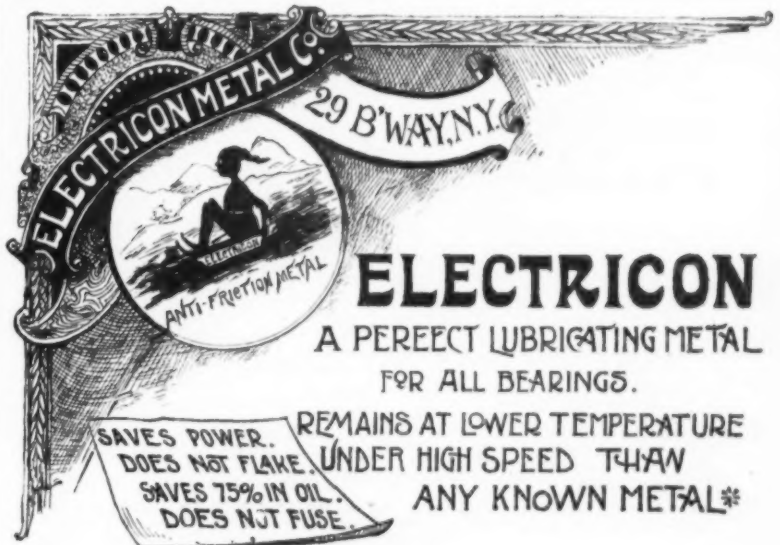
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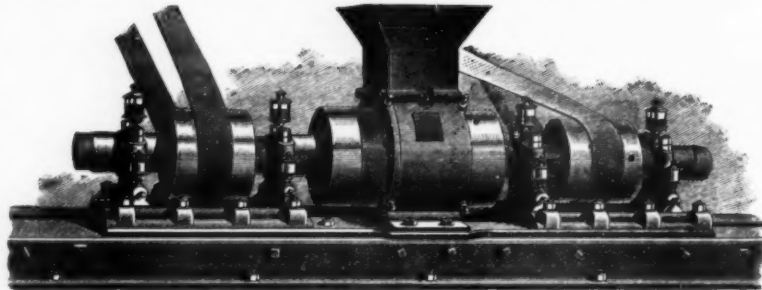
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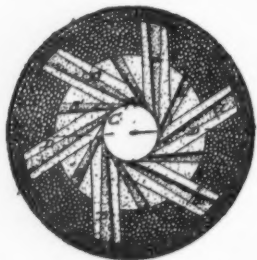
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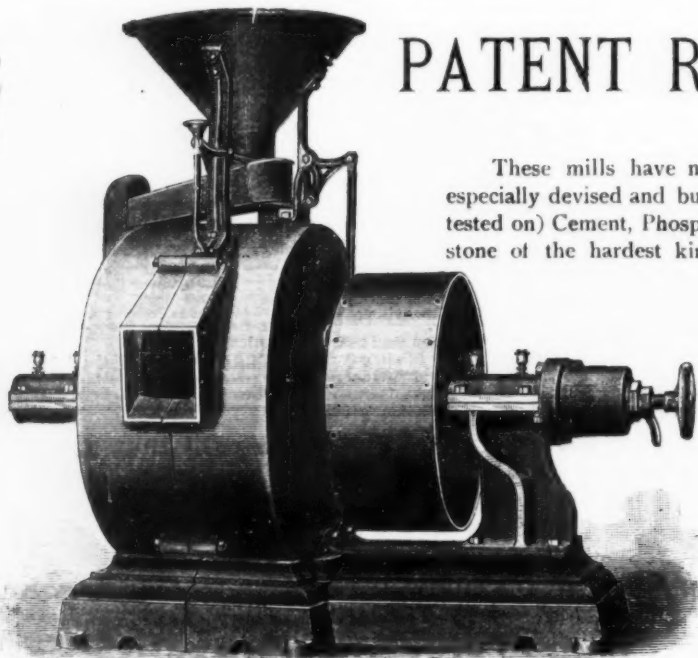
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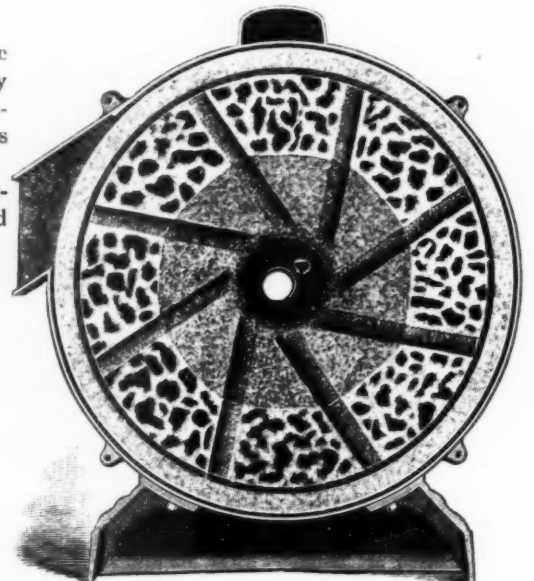
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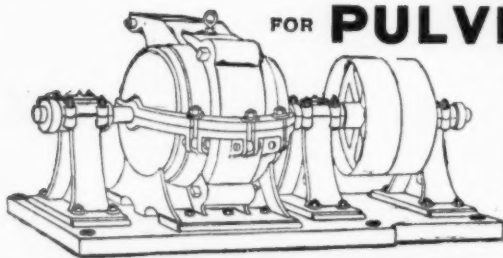


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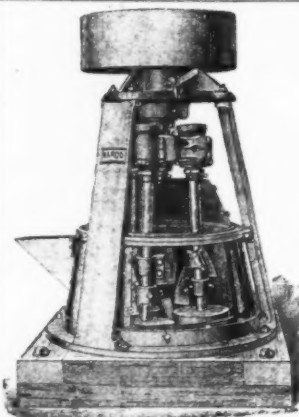
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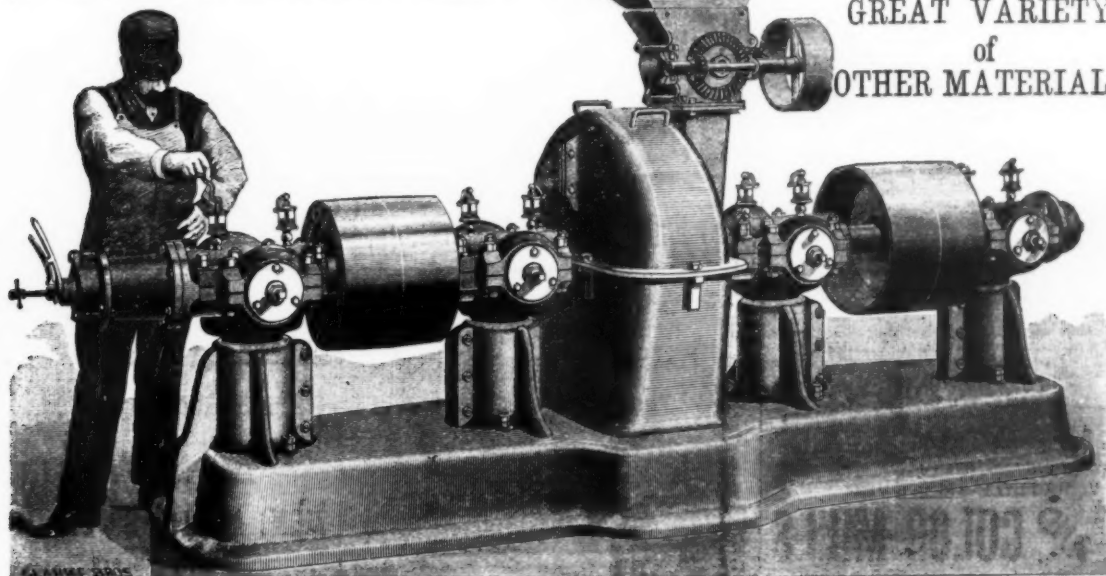
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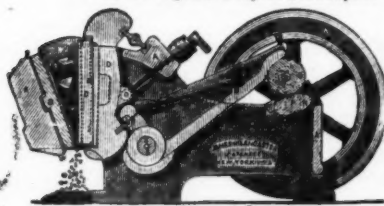
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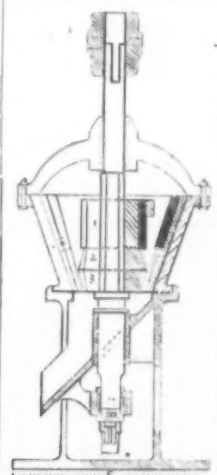
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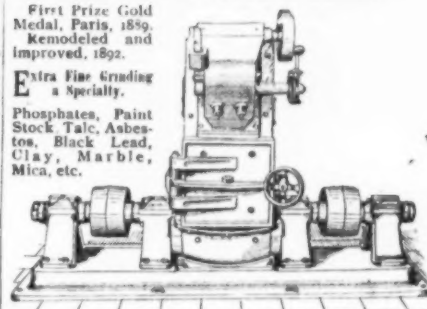
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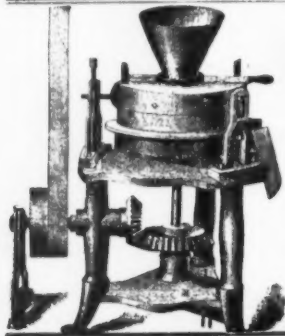
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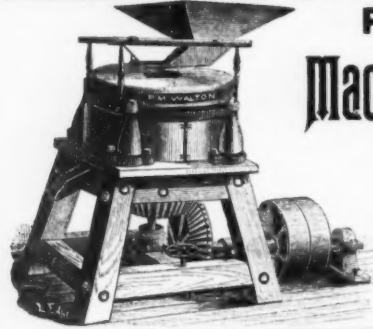
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For Hard Plaster, Plaster, etc.
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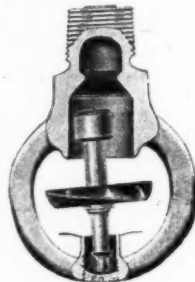
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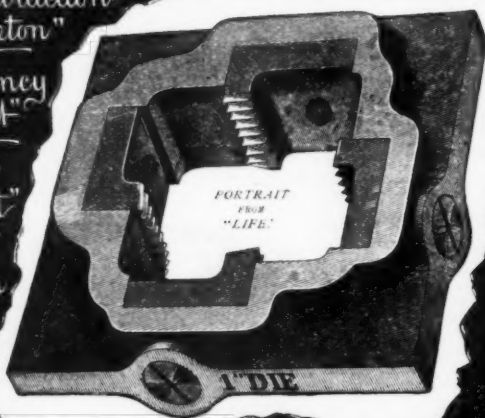
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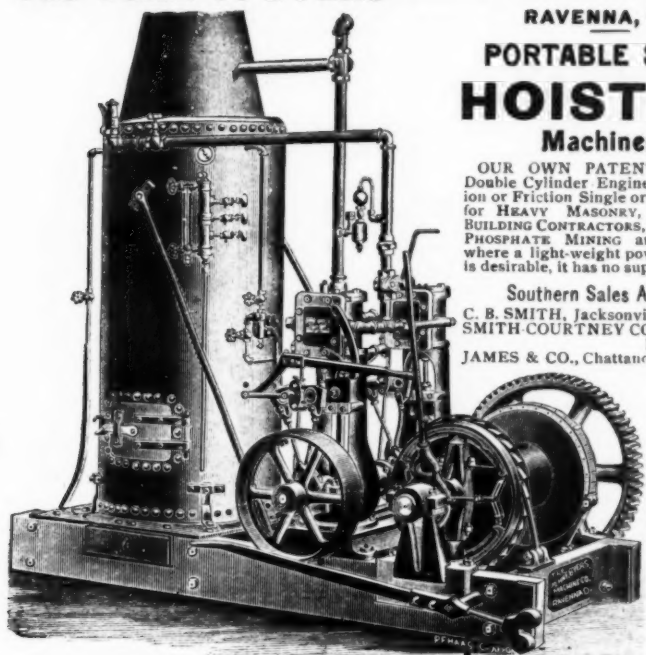
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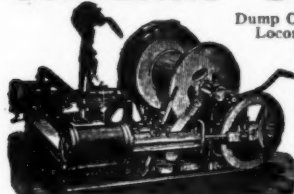
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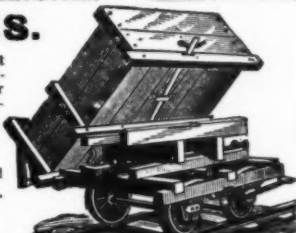
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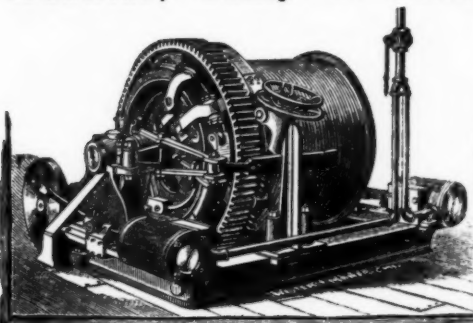
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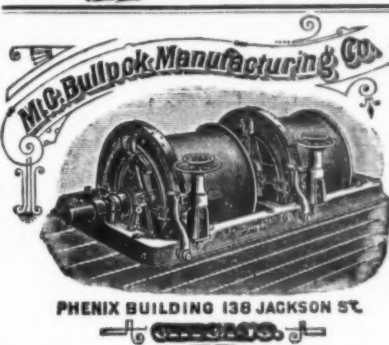
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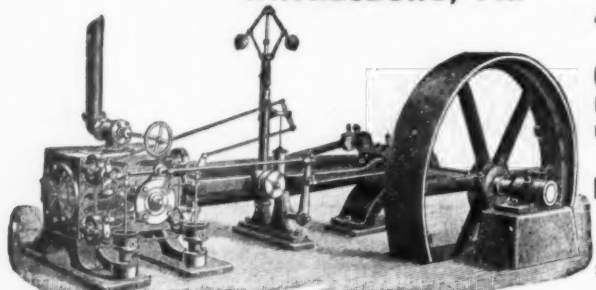
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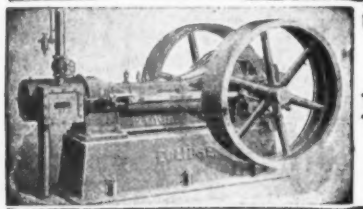
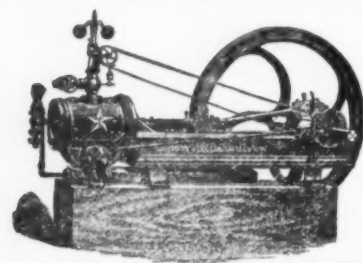
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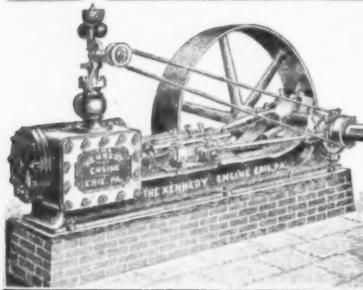
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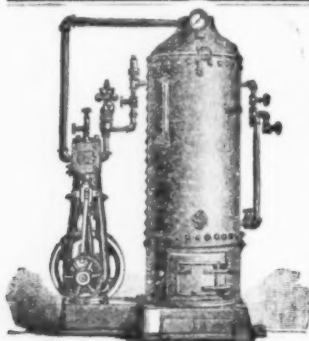
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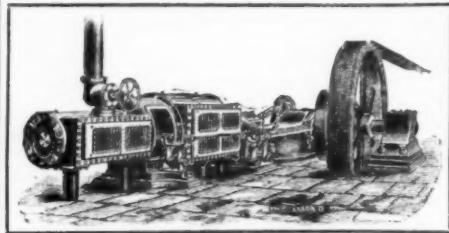
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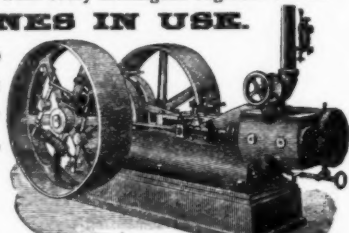
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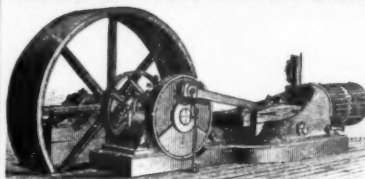
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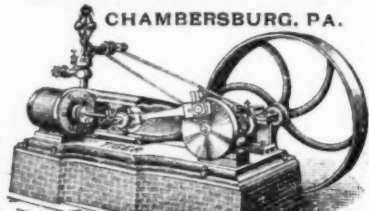
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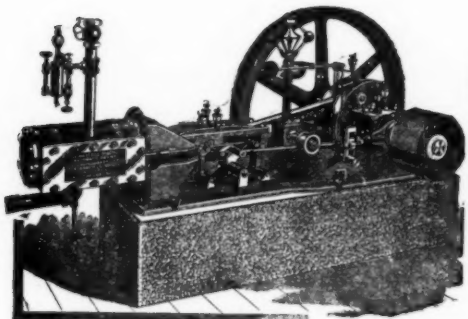
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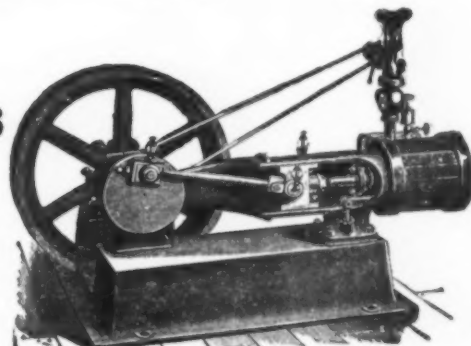
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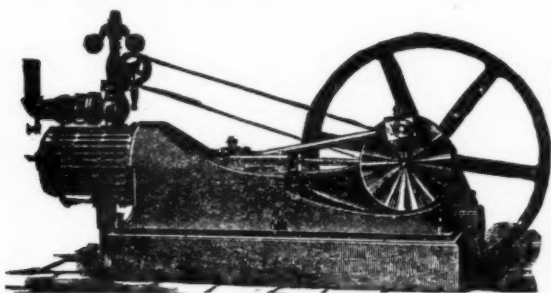
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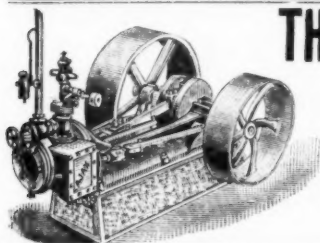
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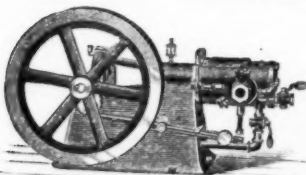
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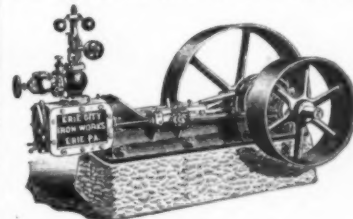
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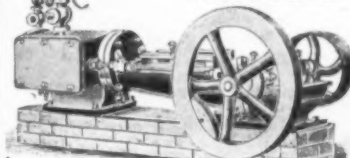
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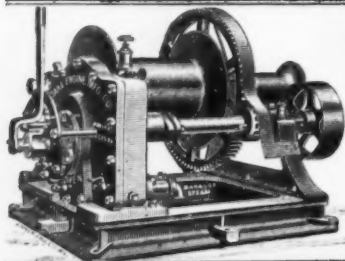
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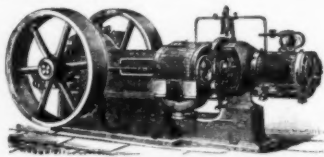
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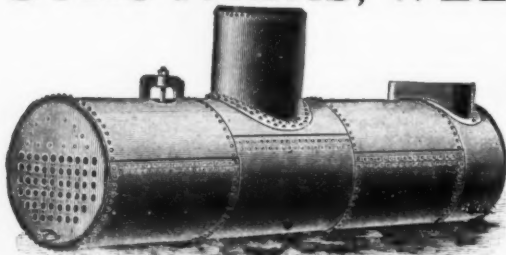
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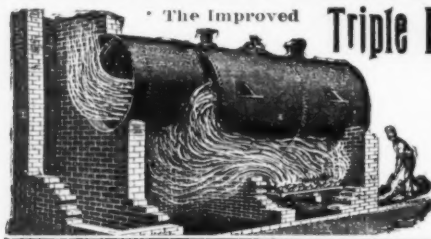
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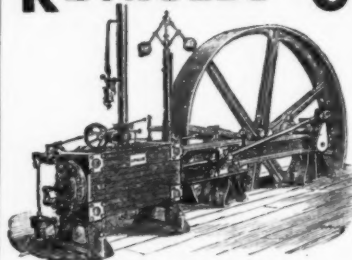
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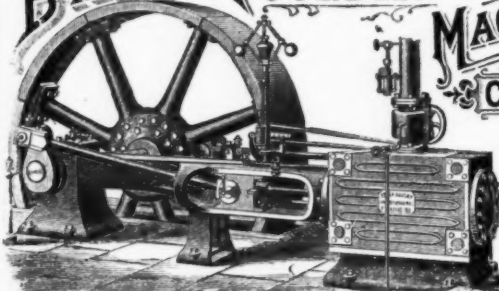
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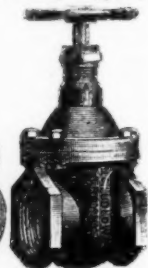
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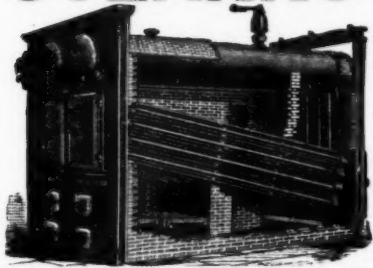
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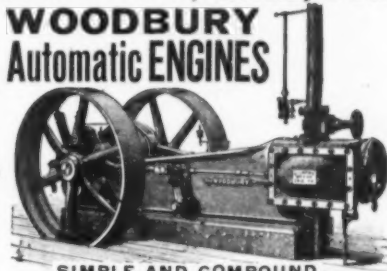
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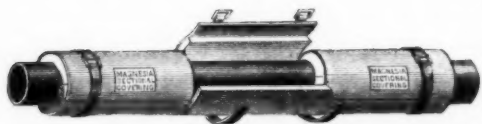
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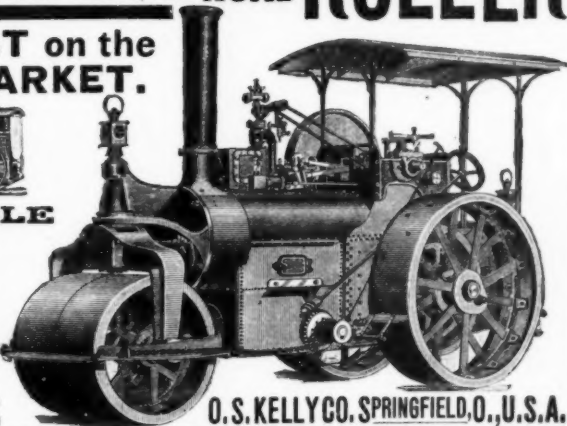
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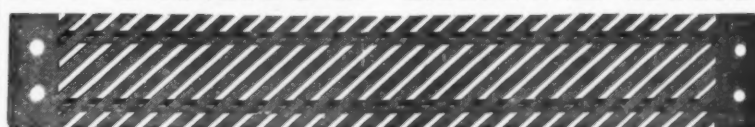


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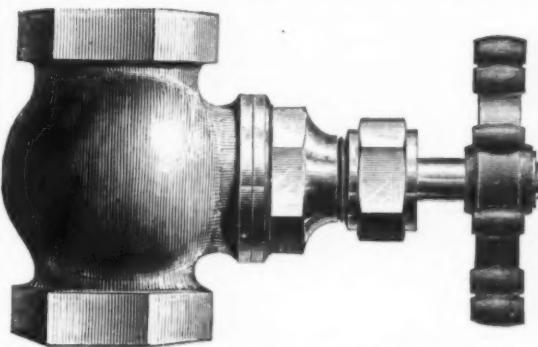
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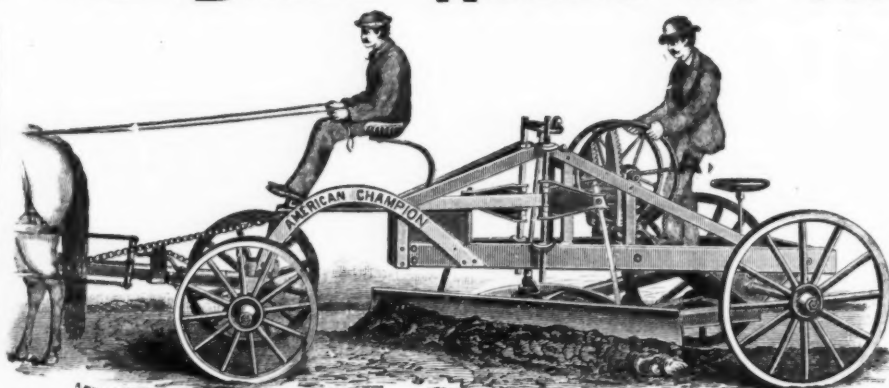
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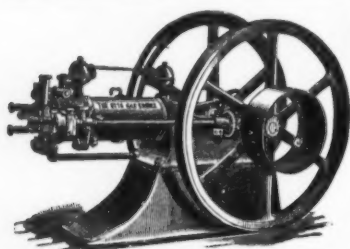
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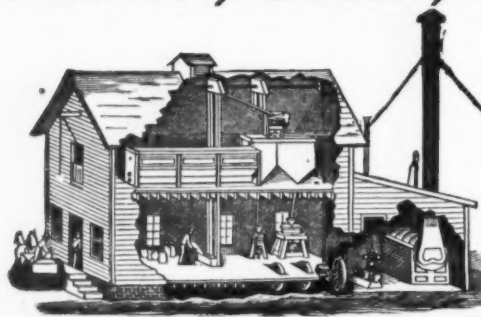
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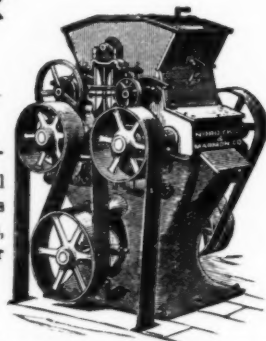


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A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER.

VOL. XXII. No. 4.
WEEKLY.

BALTIMORE, AUGUST 26, 1892.

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El Sud.

The accompanying illustration of El Sud is from a recent photograph of the vessel as she lay at the ship-yard dock at Newport News. The steamer was launched from the yard of the Newport News Shipbuilding & Dry Dock Co. on Wednesday, March 16, 1892, and the sister ship, El Norte, was launched at the same place on Tuesday, May 14. El Rio, a third vessel from the same plans, is now on the stocks. The vessel shown in the illustration is 380 feet long between stem and propeller posts and 406 feet over all; breadth of beam, 48 feet; depth, 33.9 feet; registered tonnage, 4,500. There are three decks and a partial orlop deck at the fore end of the fore hold. The four masts are of iron, and the deckhouses are also iron. Freight hatches are equipped

The Sea Island Cotton Crop.

Messrs. H. F. Dutton & Co., bankers and cotton factors, of Gainesville, Fla., have made a careful canvass of the Sea Island cotton crop by means of a series of questions which they submitted to all planters. The responses they received came from 825 Florida growers, 380 in Georgia and 201 in South Carolina, and the results may therefore be taken as representative and authoritative. Below we give portions of Messrs. Dutton & Co.'s report:

FLORIDA.

Cotton planted from February 25 to March 10 got a "good stand," and that portion of the crop is in a flourishing condition, but the larger portion of the crop throughout the State is backward and late. An extensive and protracted drought pre-

Florida cannot expect to market over 70 per cent. as much as last year, and not over 55 per cent. of the largest crop of 1889-90.

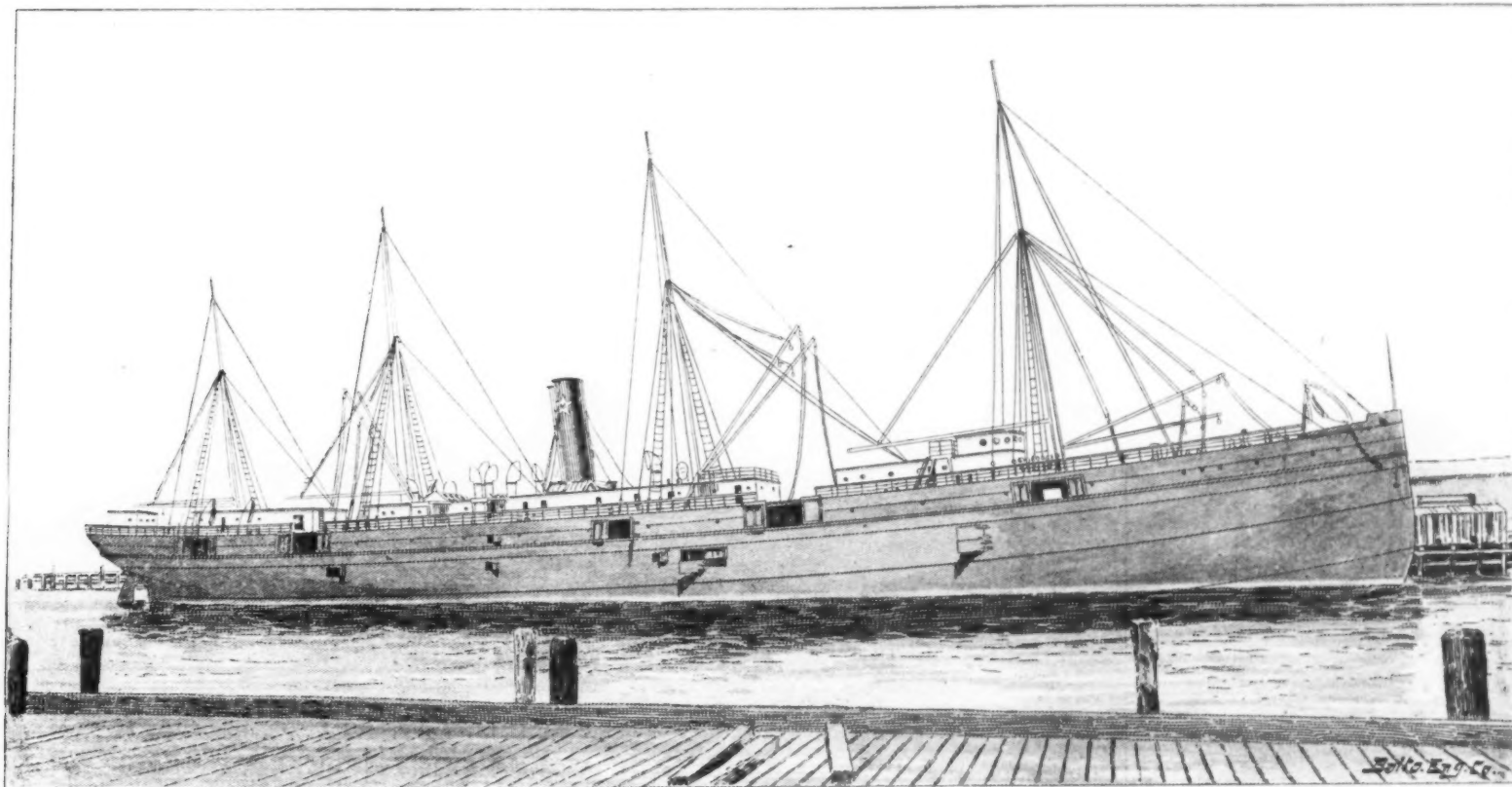
GEORGIA.

The reports show that the acreage is on the increase in some sections to quite a large per cent., and in others there is a small decrease. Caterpillars are reported in several districts, some rust and shedding, but not serious. Excessive and damaging rains are reported from some sections, while from others the rains are said to be timely and the weather favorable for the growing crop. Around Valdosta the weather is very dry and hot, causing the plant to shed and rust a good deal, but, everything considered, the prospect is that the Georgia crop will be within 20 per cent. of last year's, especially with future

we regret the fact that many of our old friends and customers have ceased to plant cotton by reason of the very low prices prevailing for the last three seasons, yet we are satisfied that unless the crop meets with some serious disaster the yield will be from 9,000 to 10,000 bales.

GENERAL SURVEY OF THE SITUATION.

We feel compelled to call the attention of the manufacturers to the fact that the very low prices prevailing for long cotton for the last few years have gradually driven out most of that class of white planters, who in the past produced the better grades and took the most care of their cotton in regard to cultivation and seed. This class of planters, to a great extent, was the one which Georgia and Florida depended upon for replenishing their seed from year to



EL SUD—LAUNCHED AT NEWPORT NEWS, MARCH 16, 1892.

with steam winches, and located to expedite handling cargo.

The vessel is to be steered by steam from the forward pilot-house or by screw hand gear from the after house. A steam windlass and steam capstans are provided for handling anchor, hawsers, etc., as well as a steel rope with drum aft for towing. The engine is of vertical triple expansion type, with three cranks placed at angles of 120 degrees. The cylinders are 32, 52 and 84 inches by 54 inches stroke of piston, working under 167 pounds of steam, which will be generated in three double-ended cylindrical steam boilers, with three corrugated furnaces at each end. There are two fire-rooms and one smokestack.

It is reported that the Chester (S. C.) Manufacturing Co., manufacturers of fine gingham, will add 200 looms to its plant.

vented the seed from germinating, and it lay in the ground until the rainy season set in about June 10, causing a poor and imperfect stand. Later plantings will not, in our opinion, mature before frost. The acreage in Florida is fully 27 per cent. less than last year. Many of the planters in the largest producing districts have absolutely abandoned the cultivation of cotton. At this writing the plant is still growing vigorously, but the universal report is that the fruit is shedding badly, so that but little can be expected from what is known as the "bottom crop."

The plant being late and tender, great damage may yet be done by the worm or caterpillar and also by the rust, which is even more to be dreaded than the worm or caterpillar.

The cultivation is not as good as usual. Even with a favorable season from now on

favorable weather and late frosts, but the plant is late, and if the weather should be unfavorable and the caterpillar spread or an early frost appear, the crop would be severely injured.

SOUTH CAROLINA.

It is the opinion of parties having the best facilities for being thoroughly posted that the acreage in long cotton in South Carolina is at least 12 per cent. to 15 per cent. less than last year. The crop generally is fully two to three weeks late, though in some instances this is not the case. No caterpillars are reported to date. Some of the reports claim serious damage by rust, but these reports do not cover any large territory. Of course, it is difficult to foretell what the next six weeks will bring forth. The general condition of the plant as to cultivation and fruiting is fair, and

year. It is a well-known fact that the cotton (Sea Island) planted in these States will gradually deteriorate even where the best care is taken in selecting the seed for planting, so that in a few years the cotton becomes almost worthless. New seed should be imported from the islands at least every two years. On account of the low price we have been experimenting year after year to produce a more prolific cotton until we have shortened up the length of the fibre to a little over one and five-eighths inches. It takes from three and one-quarter to three and one-half pounds of this kind of cotton in the seed to make one pound in the lint, while to produce a fine cotton or better, one and three-quarters to two inches in length, it takes four to four and one-half pounds seed cotton to make one in the lint. So you can readily see that the small differ-

ence made in the price as per grade does not encourage the planter to produce the finer grades. Very little, if any, seed has been imported from the Sea Islands into Georgia and Florida, except in some districts where parties have bought the seed and given it to the planters. Planters claimed that they were too poor to pay for the seed on account of the low prices prevailing last season.

The above facts, in connection with the fact that several of the large southern districts in Florida which formerly produced almost exclusively fine cotton, have practically abandoned the cultivation of it, lead us to predict that the proportion of fine cotton in the coming crop will be much less than it has been for years.

We are also compelled to call the attention of the planter and merchant again to the fact that the Sea Island cotton-growing districts in South Carolina, Georgia and Florida, for the past two years, especially, have not been properly attended to and care has not been shown in selecting seeds for planting, and in consequence the quality of cotton is deteriorating very fast. The percentage of waste is becoming so great that the manufacturers, both in America and Europe, are finding a great deal of fault, much more now than for years. They claim that the cotton bought last season contains fully 10 per cent. more waste than that of the previous years.

We would again call the attention of planters and merchants to the fact that unless we produce a better grade of cotton in the future, we will place ourselves even more than ever in competition with foreign cottons imported as substitutes—Egyptian, Brazilian, Fiji Islands and South Sea Islands off the coast of Peru. These cottons are coming to market each year with much better preparation, finer staple and longer and more even length of fibre. A large proportion of the increased demand for long cottons has been supplied from these sources. The Egyptian cotton is now becoming very popular with the spinners in America, while formerly it was mostly used in Europe.

Our experience leads us to state that more damage is done to cotton by inexperienced ginner than in any other way. Unless there is great care taken the gins will cut the fibre badly, crack the seed, and even allow whole seed to get into the lint, which will give the cotton an appearance that will affect the price from one to three cents per pound.

It will, therefore, be to the farmer's interest to look about before contracting with any one to do his ginning and send his cotton to the one who does the best work.

The farmer should see that the ginner runs his cotton and puts it through a cleaner or whipper to extract the sand and trash before ginning it; otherwise you will not get a cotton that will grade first-class in appearance and become fancy in preparation. When this is done and the cotton goes to market in first-class condition he will have some claim upon higher prices.

We would earnestly advise the planters of Georgia and Florida to plant the best grades of cotton this coming season—cotton that will produce a fine staple and a length of fibre one and a-half inches.

After visiting the European and American spinneries the past few months and talking the situation over with the spinners as to their wants, etc., we feel satisfied that there will be a large increase of demand for these better grades. The spinners give us encouragement to believe that, if we can place this class of cotton on the market in large quantities, we can anticipate a fair market price for the same.

Planters should commence to look up the matter of planting seed for the coming season at once. There are quite a number of cotton factors in Charleston and Savannah who take an interest in the seed question and keep a full supply of selected seed on hand.

We have made the subject of imported seed our study for years and annually import a large quantity of the best selected seed direct from the islands of South Carolina, and also keep on hand the best selected seed from one year's planting in Florida. Correspondence on the subject of seed is earnestly invited.

Taking the reports as they have come in up to date and comparing them with the reports for the last eleven years, we feel disposed to predict a crop of at least 42,000 to 45,000 bales.

Reports from all over the Sea Island cotton districts for the past week are generally unfavorable.

Mica Mines of North Carolina.

An article on "Mica and the Mica Mines," by C. Hanford Henderson, in the September issue of the *Popular Science Monthly*, gives a very comprehensive description of the physical and geological characteristics of mica, its occurrence, methods of working and preparation for market, the deposits of mica in North Carolina forming the central feature of the article. The name mica is not that of a single material, but is a family cognomen which includes a number of varieties. The family is one of some importance in the mineralogical hierarchy. All are shining members, and are alike in splitting into extremely thin leaves or plates, in being more or less transparent, in being highly elastic, and in having certain ingredients in common. There are seven well defined minerals which lay claim to the family name:

Phlogopite, a magnesia mica, commonly of bronze or copper color.

Biotite, or black mica, a magnesia iron mica of dark green or black color.

Lepidomelane, an iron-potash mica of black or green color.

Astrophyllite, a rare titanium mica, whose powder resembles mosaic gold.

Muscovite, or common mica, a potash-aluminum compound of varying color, white, gray, brown, green, and even violet or rose.

Lepidolite, or lithia mica, a mineral of pearly lustre and grayish to rose or violet color.

Cryptophyllite, a very rare lithium mica of greenish color.

There is besides an extensive list of relatives which have been formed by alteration on exposure to air and water. The series runs from the compact, glistening mica found in granite and gneiss, through many gradations of hydrous micas until we reach the ordinary soapstones and clays. But the name properly stops when the mineral loses its glistening surfaces, for then the Latin word *micare* (to shine) no longer applies.

When we submit the micas to chemical analysis we find that they all contain a large amount of silica, whose common representative is ordinary quartz, combined with certain metallic bases, such as alumina, iron, magnesia, lime and the alkalis (potash, soda, lithia, caesia and rubidia). No one mica contains all these, though there is some truth in the statement that micas are silicates of almost everything, but the different varieties depend upon the nature and proportion of the metallic bases which combine with the silica. Thus, while common mica is in the main a silicate of potash and alumina, it also contains small quantities of other metals, such as sodium, magnesium and iron. The mica of the market is in nearly all cases the common white mica or muscovite. From its chemical composition it is sometimes known as potash mica to distinguish it from lithia and other micas, but these names are more common in the laboratory than in trade. Although mica is so widely distributed in nature, it is only in a few localities and under well-defined conditions that it occurs in large enough plates to be profitably mined. Granite and gneiss both consist of a mixture of the three minerals, mica, quartz and feldspar (another silicate of potash and alumina),

but as ordinarily found the mica is too thoroughly mixed with the other ingredients, and is in too small masses, to be available. It is only when fissures in the rock have been filled with very coarsely crystallized granite that the mica can be mined with profit.

Such fissure veins occur in a number of localities, notably in Siberia and Norway on the other side of the water, and in our own country in New Hampshire, in North Carolina, in Wyoming, in New Mexico, in the Black Hills of Dakota, and probably in paying quantities in Alaska. Of late years the importation of mica from the East Indies has been quite heavy, and has closed many of the American mines. The recent tariff of 35 per cent. is leading to their partial reopening. All these mines are more or less alike so far as their natural features are concerned. The chief differences are artificial, and consist in the methods of mining and handling the mica. The mines of Western North Carolina have been largely exploited and may well serve as a type.

As one travels across the State to the westward one passes over three distinct belts of country—the lowlands, covered by recent alluvial deposits; the middle or Piedmont section, a low plateau underlaid by older sandstones and shales, and last of all, the western or mountain section, in which the Appalachian system reaches its finest development, and in Mount Mitchell its culminating point. The trend of the rocks in this mountain section is pretty evenly northeast and southwest. They dip at angles which are generally forty five degrees or over. There are a few mica mines to the east of the Blue Ridge, but the most of them and the best lie to the west. Once beyond this barrier, and evidences of mica abound on all sides. One sees the sunlight reflected from plates of mica on distant hillsides, and the glitter of tiny scales in the bed of every brook. These look so much like gold that one is tempted to turn Argonaut and try to bring again the golden fleece. For Colchis it is easy to read Carolina. The talcose schists and slates of the eastern escarpment are here succeeded by the oldest crystalline rocks of the continent, belonging presumably to the Huronian or Laurentian period. There are giant upthrows of granite and gneiss, and these are full of fissures carrying the coarsely crystallized matrix in which the pay mica is found.

It must not be thought, however, that all these veins are alike profitable, or even that the same vein can be relied upon for any great distance, for that would be far from the experience of the practical mica miner. It is indeed impossible, even after this lapse of time, when some of the mines have been worked intermittently for more than a quarter of a century, to reach any general conclusions as to what conditions are most favorable for a profitable mine. Old miners say that this or that indication is a sure sign of a good mine, but the shrewdest of them confess that mica mining is pretty much like gambling. A certain amount is staked in the shape of labor and supplies, and one gets in return either hundreds of dollars worth of mica, or perhaps only barren quartz and feldspar.

Many of the veins occur in a fine-grained black gneiss, which passes with the mountain miners under the name of "slate." The vein generally dips with the bedding of the gneiss, but occasionally it changes abruptly and cuts across the strata. In some of the mines the vein does not come to grass, as the miners say, but only begins some distance below the surface. The veins vary in thickness from less than an inch to ten or a dozen feet, occasionally to as much as thirty or forty feet, but these instances are rare. In places the vein pinches out completely and is practically lost, or is cut off perhaps by a large mass of displaced country rock, known as a "horse."

The location of the mines has been largely accidental. So far as I have been able to learn, the first one opened was the Sinkhole mine in Mitchell county. The spot was marked by the existence of trenches, many hundred feet long in the aggregate, and in places fully twenty feet deep. Large trees growing on the debris indicated that the workings were very ancient. It was supposed that they had been for silver, and when the trenches were reopened at the close of the war the search was for that metal and not for mica. Silver seems to dominate in the Carolinian dream of mineral wealth, when it is, of all such dreams, the one least likely to be realized. The search for silver being unsuccessful, the mines were again abandoned. The mica that had been thrown out was left on the dump, and soon advertised the real character of the mine. A stock-driver, passing that way, carried a block of it with him to Knoxville, where it attracted the attention of men acquainted with its value. They investigated the matter, emigrated at once to Mitchell county, and began systematic mining for mica. As the mineral was then selling for from \$8 to \$11 a pound, the rewards were considerable, and much enterprise was shown in the development of the industry. The first-comers had the easy and profitable task of simply preparing and shipping the mica that had been already mined, and they enjoyed the further advantage of an undisturbed market. So profitable an enterprise, however, soon attracted others. Many of the hands employed in the mines were also land-owners, and naturally concluded, as soon as they had learned something of the business, that it would pay better to work for themselves. They began exploring their own plantations, and as these often contained several hundred or even several thousand acres, the ground for prospecting was extensive. It is a region in which the majority of the people are land-poor. The single-tax project would not be apt to meet with favor there.

Then, as now, the mountaineers were largely guided in their search by the ancient workings. These were probably made by the aborigines, and were also for the purpose of obtaining mica. The old workers could only penetrate as far as the rock was decomposed, and were obliged to stop as soon as solid ground was reached. The imprint of their stone implements may still be seen in the decomposed stuff at the sides of the opening. What these people used the mica for is still problematical.

In most cases the mining has been decidedly incidental in its character and has been abandoned as soon as water was reached or as soon as the yield of mica ceased to be immediately profitable. Other mines have had quite a history. Perhaps the most famous of the Carolina mines is the Clarissa, near Bakersville. It was opened soon after the Sinkhole, and is said to have produced more mica than all the other mines in the county combined. Its output is reckoned up in hundreds of thousands of dollars. The vein is from four to twelve feet thick, with an average of about six. It has been followed to a depth of over 300 feet. The mine is now idle and full of water, although men who know it say that there is as much mica there as ever.

With labor at seventy-five cents a day, the primitive methods of mining are the more profitable. Steam drills have been introduced in a number of the mines, but have proved less economical than hand drilling. I do not know that the relation is strictly that of cause and effect, but their introduction has generally been followed by the closing of the mine. When the vein stuff has been blown down it is an easy matter to separate the blocks of mica from the feldspar and quartz. When once obtained they are jealously guarded,

for a clear block of mica of good size represents a value of many dollars. Each mine has its strong room, solidly built of logs and constantly kept under lock and key. These blocks of mica are in the shape of rough hexagonal prisms (monoclinic) and if of any thickness are quite opaque. They vary in color from silver gray and green to a rich, almost ruby, brown. This last is known as "rum" mica and sometime commands an extra price.

The mica is seldom prepared for market at the mine itself, but is taken to a conveniently located glasshouse. This generally means a transportation of several miles. Frequently the mines are on steep mountain sides and are only connected with the outside world by the roughest sort of trails. In this case the mica is "packed" down the mountain on the backs of men to the wagon road in the valley below.

At the glasshouse the mica is put into shape for shipment. The blocks vary greatly in size. One from the Wiseman mine, near Spruce Pine, is reported to have been six feet long by three wide. Pieces a yard in diameter have been obtained at the Ray mine, in Vancey county, and similarly large plates have been found in Siberia, but these are exceptional. The average block is a little larger than the page of a magazine, and is generally less than six inches in thickness. It separates very readily into sheets parallel to the base of the prism. It is estimated that this cleavage may be carried so far that it would take 300,000 of the mica plates to make an inch. It is needless to say, however, that such a thickness is not suitable for service in stoves and furnaces. The mica is generally split into plates varying from about one-eighth to one-sixty fourth of an inch in thickness. In preparing these plates for market, the first step is to cut them into suitable sizes. Women are frequently employed in this work, and do it as well as, if not better than the men. The cutter sits on a special bench which is provided with a huge pair of shears, one leg of which is firmly fixed to the bench itself, while the movable leg is within convenient grasp. It is requisite that the shears shall be sharp and true, for otherwise they will tear the mica.

The patterns according to which the mica is cut are arranged in a case near at hand. They are made of tin, wood or pasteboard, according to the preference of the establishment. Generally they are simple rectangles, varying in size from about four square inches to eighty.

The cutter selects the pattern which will cut to the best advantage, lays it on the sheet of mica, and then, holding the two firmly together, trims off the edges of the mica to make it correspond with the pattern. She puts both mica and pattern in their proper place in the case before her. Then she takes up another piece of mica, and finding the best pattern, proceeds to shape the sheet as before. In this way the rough plates of mica are reduced to uniformity and are sorted as they are cut. When the cutter completes her task she has all the mica piled away in little bundles under their corresponding patterns, while the scrap falls in a glistening heap on the floor.

The cleaning process comes next. The cleaner sits directly in front of a window and must examine each sheet of cut mica by holding it up between her eyes and the light. If there be any imperfections, and there nearly always are, they must be removed by stripping off the offending layers of mica until a clear sheet remains. The cleaning is done by means of a sharp pen-knife—and considerable discretion. It is quite easy to tear away the entire sheet and have nothing left for one's trouble. Both the cutting and cleaning are tiresome routine operations, yet there is a certain fascination about tearing the mica to pieces

that few have philosophy enough to resist. One soon becomes absorbed in the task of seeing just how thin a sheet of mica can be separated, and before one realizes it an hour or more is gone.

Finally, the cut and cleaned mica is put up in pound packages and is ready for the market.

There is an enormous waste in the processes of preparation. One hundred pounds of block mica will scarcely yield more than about fifteen pounds of cut mica, and sometimes it is even less. The proportion varies, of course, with different localities.

The Peaches and Grapes of Georgia.

By T. O. Skellie, Macon, Ga.

The fruit belt of Georgia, where the bulk of the peaches and grapes are grown for market, lies all along the line of the Central Railroad, between Atlanta and Marshallville, the latter place being 140 miles south of Atlanta. All along the line of this road you will see orchards and vineyards, and the lands, unless in a bottom, are all good for fruits. At each place the people think there is something in the soil, or possibly in the atmosphere, that makes their fruit a little better than any that is grown either north or south of them. The fact is, so far as peaches are concerned, they will do finely all along between those places. At Marshallville they are probably a week earlier than they are seventy-five miles farther north. The two largest shipping points are Fort Valley and Marshallville, just eight miles distant from each other. These places shipped a little over one hundred carloads each this season.

A carload of peaches is 500 cases of six one gallon baskets, weighing about forty pounds each. These are called 3 peck cases. They usually sell in the Eastern markets at from two to four dollars per case. The freight from the average shipping point to New York is fifty three cents per case, including both railroad freight and refrigerator charges, the freight being thirty-five cents, and the C. F. T. Co.'s charge eighteen cents—total fifty-three cents per case. The cases cost the grower about twenty-four cents made up, picking, packing and hauling to the railroad about ten cents more, making, say, thirty-five cents f. o. b. cars. A carload of good peaches usually nets the shipper about \$1,000. A great many sales were made at \$1.25 to \$1.75 per case free on board cars. The entire crop, I think, could have been sold at \$1.50 per case. Peach and melon growers are great hands to take chances, and a great many of them would not have sold at \$2 per case. Now I know whereof I speak when I say that every marketable peach grown in Georgia this season could have been sold as fast as loaded on the cars at a price that would have netted the grower \$150 per acre, provided, of course that his orchard was in good condition and had a good crop on the trees. A good many orchards netted over that amount.

W. E. Warren, of Powersville, netted a little over \$300 per acre. This crop was grown on land worth \$20 per acre. I have before me a sale of only 480 cases made by Snow & Co., of Boston, at auction in August which brought \$1,721.57 gross. This being in August, they had to compete with both Delaware and California peaches.

The main shipping points are Marshallville, Fort Valley, Vineyard, Orchard Hill, Pomona, Griffen, The Rock, Barnesville, Forsyth, Powersville, Loraine, Tennille and Moreland.

Macon, a city of some 40,000 inhabitants, is on this line of road 100 miles south of Atlanta. Between Macon and Atlanta the bulk of the grape crop is grown. This section is fine for grapes. Some years they

do better than others. South of Macon, where the soil is more porous, a grape crop is just as sure to come as the sun is to rise. I don't think anybody has ever seen a rotten bunch of Concord or Ives grapes in that section in fifteen years. Rain or shine seems to make no difference; they always do well, though from some cause not much attention has been paid to them. They are easily grown, and will pay well every year.

Fort Valley, one of the most enterprising little cities in Georgia, is forging ahead in the peach business, not only with the home folks, but with Eastern and Western people. The J. H. Hall Co., of Connecticut, has a young orchard of over 100,000 trees. Two or three Ohio companies have young orchards with from 25,000 to 80,000 trees. None of these orchards are in bearing yet. As much as a-half a case to the tree has been shipped this season from orchards planted out in the spring of 1890. That crop alone would pay for the trees, the land and the cost of cultivation from the time they were planted up to the time they were shipped.

The varieties usually grown in Georgia are given in the order of their ripening: Alexander, Tillotson, Early River, St. John, Early Crawford, Amelia, Stump the World, General Lee, Chinese Free, Belle of Georgia, Elberta and Late Crawford. While some others are grown there, all do well and there is good money in all of them, unless, perhaps, the Alexander, which a great many have discarded. I believe that with good attention after a big crop—attention such as pruning, cleaning around the trees, fertilizing well, having "smudges" ready in the spring to raise a big smoke in case "Old Probabilities" says look out for frost—that an average crop of peaches can be raised every year. It has been tried by J. D. Cunningham, Jr., of Orchard Hill, one of the largest and most progressive growers in the State, and without using the smoke he has raised three crops in four years. In March, this year, while the trees were in full bloom, there came one of the biggest breezes ever known in Georgia, the thermometer going to twenty-five degrees above zero, and yet the trees were loaded down with fruit. The fact is, not having any crop last year they were in a fine, healthy condition. In 1889, after the big crop was over, Mr. Cunningham pruned his orchard severely and fertilized his trees well. The result was the next year he had another full crop, and he was the only grower in the State that did have one. So you see what brains and enterprise will do.

Now as to the price of land. Land can be bought at from \$15 to \$40 per acre, that at \$15 being as good for fruit as that at \$40, though not so near to town. Still it can be bought at that price along the railroad, and it is no trouble to get a shipping station at any place where there is anything to ship. You can buy the land and the trees, prepare the land, fertilize and plant the trees, all for \$30 an acre—this with 150 trees per acre. Some growers plant 100, others 125, 150 and 200, but 150 is about the average. With good attention the third year you ought to get a crop that would pay you \$75 per acre, and the fourth year you ought to get \$150 per acre.

As to the canning industry, there are only a few canning establishments in Georgia, but these are doing well, and the probabilities now are that there will be from a dozen to twenty put in operation in Georgia by another season. All that is needed is for some enterprising parties who are well posted with facts and figures, and with some money—though they will not be expected to put up all the money—to come and work up the business. Our people are ready and anxious to go into all such enterprises. I think the principle things to be canned would be vegetables and seedling peaches; the latter usually sell for 35 to 50

cents per bushel. I do not know what canneries can pay for fruit, but the shipping varieties cannot be bought anywhere for less than a dollar a bushel on the trees, and then only from parties who do not understand shipping, and who do not care to learn.

Large quantities of vegetables are going to be planted for market, now that we can get good refrigerator cars, and a great many will be raised for canning. They ought to be raised here as cheap as anywhere. Land can be rented for two dollars per acre, and labor is plentiful at from fifty cents to one dollar per day. The banner fruit county of the State is Houston. In this county is the celebrated Willow Lake Nursery and Orchard, owned by Mr. Samuel H. Rumble, who was the pioneer in the fruit business; the "Georgia," owned by L. A. Rumble and B. T. Moore, and quite a number of others who ship from Marshallville. Then there is Deitzen & Bros. and Dietzen & Shumway and others who ship from Fort Valley. There has been brought into Houston county this season \$317,000 from the fruit, melon and vegetable business. This includes nurseries and crate factories. There has been shipped from this county this season 190 carloads of peaches and 534 carloads of melons. Marshallville being just across the line in Macon county, only part of her shipments are included in this estimate. These shipments were all on the line of the Central Railroad and branches, except 268 cars melons from the Georgia Southern & Florida Railroad, that runs through Houston county. These two roads are lined with fine peach, melon, vegetable and tobacco lands, and the officials are not only willing but are anxious to do everything in their power to encourage the planting and the prompt handling of these crops.

The growing and marketing of these crops as late as four years ago was ridiculed by 90 per cent. of the people, yet they have increased the value of Houston county lands over 100 per cent. The lands about Perry, which is the terminal of the Perry branch railroad in Houston, are as fine fruit lands as there are in the South, and they are cheap, as her people have not as yet taken hold of the fruit business. It is the county seat of Houston county, twelve miles from Fort Valley.

The distribution of the crop was as bad as could be, no attention whatever being paid to that question, the bulk of the crop going to New York and Philadelphia, while Boston, Baltimore, Cincinnati, Chicago, St. Paul, Minneapolis, Buffalo, Cleveland, Pittsburg and other places got comparatively nothing. Even a moderate distribution would have increased prices fifty cents to \$1 per case.

Georgia shipped this season about 450 cars peaches and grapes. A simple calculation will show any one that the twelve larger cities will handle at good prices sixty cars per day for fifty days, or 3,000 cars. This leaves several hundred places that will take two to four cars each per week during the season, and as consumption increases very rapidly as prices are lowered, you can safely multiply these figures by two, and then the grower would realize at least \$50 to \$75 per acre on well-cultivated orchards. No, there is no danger in overstocking the markets with good Georgia peaches. With the varieties now grown, the season commences June 1 and closes August 10.

The ice factories failed us again this year right in the midst of the shipping season; consequently several ice factories will be built in the fruit belt before next season. In this section the vegetable and small fruit growers made money; the melon crop was sold at an average of \$100 a car net; the nurserymen have sold about all their trees; the corn crop is made and is one of the best ever raised in

Georgia; the cotton crop, while the acreage is greatly reduced, is good; the tobacco crop is fine, and old Georgia is moving up to the front.

Atlanta's Unique, Composite and Attractive Architecture.

By W. W. Goodrich.

The hero rises above his environment, and ennobles mankind.

The people of Atlanta are moral heroes, who have put themselves in touch with each other and with their countrymen of our common land.

Here democrats and republicans work harmoniously for the public good, eschewing partisanship and striving in accord to upbuild a great city. Here is a charity between the vast political parties that commands admiration.

The blending of opposite political forces and opinions and the burial of dead issues have brought Atlanta to the front, and built her wonderfully up.

The architecture of Atlanta is progressive; from the simple taste of the artisan to the mansion of the rich is but a step, and the spirit of all, even the humblest, is to betterment. Under this universal inspiration Atlanta is surely marching to permanent superiority of architecture.

Before the war architecture was a blending of the Jacobian and the Colonial, of which excellent examples are still extant, the fluted column of the simple orders, in bold effrontery, giving a classic invitation to come in and hear the oratory of the old masters of that art, now almost extinct. Looking on these facades I almost imagine I am in the classic land of Greece, in the temples of the gods, listening to a Socrates.

When Sherman destroyed Atlanta he little thought, probably, that a city would arise upon its ruins. Could he now look from the aspiring roof of the stately Equitable building he would see a grand metropolis on the wreck of old Atlanta, and on every hand majestic monuments of architects' skill, and beautiful structural facades that fascinate the vision and compel the admiration of the most careless observer.

The principal building material for architectural effect and artistic embellishment is from the Georgia Marble Co.'s quarries at Tate, Pickens county, Ga. This marble leads the world. It is the granular marble, that resists all atmospheric action, stands all strains and finishes in a superb and harmonious whole. And this marble can be used at no greater expense than the finer grades of pressed brick.

Among the structures wholly or in part of Georgia marble are these:

Herald building, daily newspaper, entire front.

The R. F. Gould residence, wholly of marble, even the chimneys of this imperial stone, beautifully carved, and the heat and acids of coal smoke do not tarnish the chimneys in the least.

The Equitable building, in part.

The Inman building, in part.

The High building, in part.

The Aragon Hotel, in part.

And there are many others wholly or in part marble throughout Atlanta.

In all of my experience with building stones Georgia marble gives me the greatest satisfaction for a perfect building material that will last and not be affected by heat or cold, nor the action of frost in freezing.

I have seen the cities of the growing West spring up in a day, figuratively speaking. They have their set back, but Atlanta grows on, and no matter what the financial state of the land at large, she climbs higher with her sky scrapers.

Her homes have more of architectural merit with each passing period of building construction. Each new house builder vies

as never before to outdo his friend in home building and in home comforts. There is no accepted or popular pattern, no slavish imitation of any model, however liked, no wholesale adoption of architectural fashions, but a sturdy originality and independence of taste and idea that are always seeking and finding new effects and comforts.

Atlanta has no style of architecture. This shows the wisdom of her architects. We see a picturesque blending of all styles, the best of all styles grouped in a myriad of beautiful and harmonious, but differing and exquisitely unlike wholes. Such a composite and yet symmetrical and attractive architecture was never before seen, the outcome of a growing architectural taste, and presenting with absolute freedom from copied uniformity a rare and delightful variety and originality of gems of architectural beauty.

Every residence is different, and new combinations of grace and convenience constantly enrapture the eye.

The democracy in architecture relieves the sky line, and in a wholesale innovation, wherein monotony is destroyed, a scenic effect is given to the streets and lawns that could not be obtained any other way, and that makes Atlanta the very ideal of architectural taste and loveliness.

Canal vs. Rail Transportation.

By Lewis M. Haupt, Consulting and Maritime Engineer.

For the past half century the attention of the capitalist and engineer has been confined so closely to the development of railways as entirely to overshadow the cheaper modes of transportation by water. In fact, there has been engendered a widespread antagonism to the latter system, which has resulted largely in its extermination wherever possible. The evidence of the superior economy of the water route is furnished by the railroad companies themselves in their general efforts to purchase or lease existing canals because of the low rates charged by the latter, which the former could only meet by ruinous cutting.

It is said that corporations have no souls, and it would seem that in such cases at least they are callous to all sense of moral responsibility, for it is certainly not in accord with the "golden rule" for one to enter upon another's property, take away his business by a ruinously rivalry until the first has been destroyed, and then recoup oneself for the loss by recourse to the public exchequer in the increased rates charged for the same service.

A distinction must be made between this mode of procedure and the legitimate competition resulting from improvements which increase facilities and permanently reduce the cost of movement for the benefit of all the parties interested. The one is a deliberate trespass for personal aggrandizement; the other an open and legitimate competition for the public good. The very fact of the existence of the waterway has had the effect of compelling the traffic managers of railways to exert every nerve to improve their methods of transportation, so that rates which a few years ago were regarded as the lowest possible have been split in half and still leave a profit. Instead of three cents per ton mile the charges are now in some cases but little over four mills, and the average for the United States is 0.929 cent. Notwithstanding these great economies, the old, neglected and shallow canal can and does retain its supremacy, and the reasons are not hard to find.

These are due to the lesser resistances to be surmounted, for the cost of all transportation is measured by that of overcoming physical and mechanical obstructions. On the canal there are practically no grades, the friction is that of fluids instead of solids, the capacity of the plant is

greater, the cost less, the motor cheaper, and the time in transit nearly, if not quite, equal to that by rail. This latter statement is not generally accepted, but it is borne out by the testimony of many competent witnesses before government commissions. If the same attention were given to improvement of artificial waterways as has been devoted to railways the economy of movement would be greatly increased, millions of dollars would be saved for investment in manufactures or other more permanent forms of improvements instead of being spent in repairs to a short-lived and perishable form of plant, and, best of all, the railroad managers themselves would utilize the canals which have become the property of their companies for the enlargement of their revenues, while at the same time they reduced their rates and thus stimulated and increased their business. Now, the energy and attention of their numerous solicitors is expended in securing every pound of freight for the railroad, while the same industry in behalf of the canal would put in motion as large tonnage which cannot be touched at the present rail rates. And yet we find the railroads in many cases patronizing competing canals for the transportation of their own construction materials rather than haul it on lines under their own control and connecting the same terminals. Why, if not because it is cheaper?

Even to day a comparison between the old time canal and the most improved and efficient railroad in the country may be made which will show the superiority of the waterway.

Thus a canal terminating in Philadelphia, having a draft of five and one-half feet and capable of carrying boats of 175 tons capacity, charged from forty to seventy cents per ton tolls from the mines to tide-water, 108 miles. This canal has a bottom width of forty feet and depth of six and one-half, with locks 110x18 feet. The boats weigh about sixty-five tons, making a gross load of 240 tons to each team of three mules, or eighty tons per mule, moved at the rate of one and three quarter miles per hour. The tractive force was only 1.75 pounds per ton, while on a railroad it is about nine pounds.

The boat and team cost \$2,500, or \$38.44 per ton.

The ratio of paying to dead load is 175:65, or nearly three to one. On a first-class modern grain car of 60,000 pounds capacity, weighing 30,000 pounds, the ratio is two to one. The average weight of the box car being 13.4 long tons and its cost \$625, the cost per ton of the car is \$46.34. But the 125,000-pound locomotive costs \$10,000, and the average trainload in the United States by Poor's Manual for 1891 was 163 tons, requiring but, say six, of the 30-ton cars; hence the motive power per car cost \$1,666, or \$124 per ton, which, added to the \$46.34, gives for the cost of rolling stock per ton \$170.34, as contrasted with \$38.44 for the canal. It is true, however, that on favorable grades one engine can handle from forty to fifty cars, thus greatly reducing the cost of motive power, but the averages are a better basis of comparison. The life of the boat is longer also than that of the car, being from eighteen to twenty years.

Now as to the load. One boat's load of 175 tons would fill nearly six cars of 30-ton capacity, or an average train, for which the expenses of movement are much greater; but without going into a detailed analysis of individual items of expense we may take the reported average rates for freight movement per ton-mile as being the measure of the aggregate cost of overcoming all the resistances opposed by railroads to traffic.

The lowest rate reported for 1890 in Poor's Manual was that of the Chesapeake & Ohio, which was 0.54 cent, or 5.4 mills, per ton-mile. The next lowest was the

Louisville & Nashville, on which the rate was 5.7 mills, while the New York, Lake Erie & Western ranks next at 6.4 and the Pennsylvania Railroad comes next at 6.5, and thence the rate rises to 16.1 mills for the Southern Pacific. The average rate of all is over nine mills per ton-mile. Compared with this we have on the canal for captain and crew \$4.75, feed for three mules \$1.50—total for movement of boat per diem \$5.75; depreciation and interest at 20 per cent, \$500; total expense for season, \$638 per boat, making twenty round trips and delivering 3,500 tons of coal, which is at the rate of 18¼ cents per ton. Adding eight cents for unloading brings it up to 26¼ cents for 108 miles, or 2.4 mills per ton-mile, but as the boats return empty their round trip is in fact 216 miles, and the cost, if there were return loading, would then be but 1.4 mills. In neither case has the roadway been considered. The surprising economy of water transportation is, however, more fully illustrated by the results of the tramp freight vessels on the ocean, which may carry 3,000 tons or more 250 miles a day at a cost of \$300, or ten cents per ton for 250 miles, which is but four-tenths of a mill per ton-mile.

Even greater economy has been secured in many of the recent freight steamers built on the great lakes, some of which have a capacity of 3,000 tons on a draft of sixteen feet, and one is reported to be on the stocks capable of carrying 6,000 tons. The rate of one cent per bushel on wheat from Chicago to Buffalo is not now unusual. At thirty-three bushels to the ton, this is but one-third of a mill per ton mile, or one-twenty seventh the average railroad rate.

The success of the whaleback "C. W. Wetmore" was such as to cause other parties to engage in the construction of additional vessels of this type both here and abroad, with promise of still greater efficiency.

These astounding results are attributed to the great efficiency of marine steam engines, and to great capacity for storing the paying load, so that, notwithstanding the long haul over non productive waters, the ocean carrier is out of reach in the competition with the land lines; in fact, there can be no competition, for the two are reciprocal and mutually beneficial. The marine engine requires only one-half ounce of coal per ton mile, or a ton of coal would produce 64,000 ton-miles of ocean carriage at freight speed, while the same amount of fuel will only produce 10,000 ton-miles on a railroad, or about one-seventh as much. From whatever standpoint, therefore, the question be viewed, it would seem that even with the improved efficiency of the railroads, which it is stated was increased last year over 60 per cent., they are not able to cope with the unpretentious and antiquated system of canal transportation, and the attempts which are systematically made to obliterate our canal routes, limited though they are, would be a calamity to the nation as well as to the railroads, for manufactures and commerce would be restricted by increased taxes in the form of higher tariffs.

The proposed convention in the interest of canals, to be held in the Empire State, has been called none too soon, and the prosperity of the country would be greatly enhanced if a more general interest were manifested in enlarging our great systems of waterways and in bringing them into more intimate co operation by improving their connecting arteries. It has been shown by statistics that the \$30,000,000 expended on the improvements on the great lakes have effected an economy in the freight moved in one year of more than three times the total cost. Surely there are few, if any, expenditures of the government that can produce a better result than this of the river and harbor bill.

RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department, on page 79.]

The News of Wall Street.

OFFICE OF MANUFACTURERS' RECORD,
No. 126 Liberty Street,
NEW YORK, August 24.

News again in Richmond Terminal. The advisory committee of seventeen finds that certain gentlemen have been feathering their own nest to the tune of \$4,000,000 which the security holders ought to have had. Well! Well! Whoever would have thought it of Richmond Terminal magnates at any time during the lively career of this conservatively managed financial corporation. If they got \$4,000,000—and the accusers say they can prove it—it is strange that they contented themselves with so little as that, unless perchance those who may have preceded them left only that sum lying around loose, and, as it were, in portable form.

Let us look at these charges for a moment. One is the purchase of nearly \$2,000,000 of Georgia State bonds bearing only 3½ per cent. interest, and carrying them by means of a loan bearing 6 per cent. interest. This, it is told, was to bolster up the financial standing of one of the parties to this singularly guileless piece of financing. It is making some money lender a present of \$45,000 a year. Whoever did that must have had a particularly warm feeling toward this money lender, or else he must have been particularly in need of credit to pay so large a bonus. It would be interesting to learn who lent this money. And the one who got his little commission on the sale of the bonds was an officer of the road. That sounds a good deal like John Hoey's genial way of making one hand wash another in the Adams Express business.

Here is a naive euphemism for you! "A director is charged with drawing large sums from the treasury and returning no vouchers for these drafts." Webster's Dictionary has a much shorter word for that.

So now they darkly hint at compelling these people to disgorge. Four millions isn't much when speaking of Richmond Terminal, and it might be difficult to see whose equities would be strongest in case the money were recovered—the people who should have got the money at the time it was "diverted" or those who are now the hungriest.

No names are mentioned in this highly sensational and "diverting" circular of the advisory committee of seventeen. It is supposed that it means the Brice-Thomas-Inman party, who were in control at the time of which these things are related. There were also at the time in the directory such men as the Calhouns, Abram S. Hewitt, George S. Gould, Sidney Dillon and others, whose names are familiar to us. Are we to take it for granted that these latter were parties to such indictable transactions as these, or that the wicked partners so misbehaved when their backs were turned, or how?

Now, investigating committees are prone to make charges during reorganization proceedings and in periods of unprosperity like these. They find mare's nests behind every bush. Sometimes they amount to mere differences of opinion as to the proper way to have met financial emergencies as they come up; sometimes they send people to State's prison, or beggar millionaires like John Hoey. There is no doubting that the Richmond Terminal has been very badly handled—for the security holders—in the past, and all that; in fact, in such a way as to make the holding of controlling interests seem very profitable, while the holding of good mortgage bonds on the properties controlled became a vexatious and disagreeable task. But the

most Mr. Pat Calhoun, one of the very directors accused by implication in this report, seems able to say in reply to the committee is "you're another," as follows in an interview published on Monday:

It will strike the security holders of the Terminal company with surprise that this report, which is signed by five Terminal directors, should charge upon the Terminal board the failure of the Norton committee and the abandonment by the board of its duties when four of those directors voted for the resolutions refusing to give the Norton committee the aid it asked and declining to postpone the elections of the Danville and East Tennessee companies until after its report, which action caused its resignation, and with their friends then took control of the board of those companies, all of which was done over the votes of my brother and myself.

I shall be glad to have the Georgia Central matter subjected to the fullest investigation in connection with all the other transactions of the Terminal company from its inception. The public will then understand how utterly baseless are the insinuations made, and will see that the financial troubles of this company and the Danville originated in the administration of affairs conducted by some of the very men who sign this report.

Isn't that interesting?

It is understood that the appointment of Mr. Oakman as permanent receiver is gratifying to all concerned in pulling the company and its allied interests out of the mire.

There is still a good deal being said about the continuance of gold exports in spite of the fact that the exchange market does not warrant our being asked to give up the precious metal. In point of fact, the foreigners are paying us a premium on our precious metal. Hence we are selling that which we have a surplus of to those who need it worse than we. At least that is the way it looks to me. The Austrians and Germans are doing the buying. If anyone can see a bear point in this, I don't exactly follow out the mental process. However, "it was only a little one" in today's case. There was only \$1,500,000 that went out by to day's steamers. In the morning the gossip was that there would be none at all, and the traders bid up stocks. In the afternoon they heard of the engagement of this amount, and sold them down a very little. It looks as if they made gold too much of a bugaboo to scare the lambs with.

We are getting out of the woods, I think, to where we can almost see a broader and a better market for stocks. The labor troubles seem to be getting calmer. We call it "labor troubles" to day, where last week we spoke of "riots" and "anarchy." We have been having fairly good crop weather, and the drift of money to shipping points shows a prompt beginning of the preparations for moving back a large amount of staple commodities to seaboard. Trade generally isn't very lively now, but we hear no talk of hard times. I would, however, like to call attention to one thing, a standing still in exploiting of new enterprise. This country is too big for that to last long, but at present there is comparatively little doing in the way of building for the future and inevitable growth; that is to say, we are barely keeping pace with present necessity. I don't like to see it, and I hope it is merely a temporary lull in the restless activity of our forehanded, far-seeing, enterprising, even daring American investor.

Missouri, Kansas & Texas Extensions.

The Missouri, Kansas & Texas Railway Co. filed at Austin, Texas, on the 20th inst., a certificate of increase of capital stock from \$8,000,000 to \$13,000,000; also resolutions authorizing another mortgage to \$10,000,000. The resolutions recite that it has become necessary to borrow money to the above amount in order to complete, improve and operate the road, including 500 miles of extension and branch lines intended hereafter to be constructed.

The mortgage is not to exceed \$20,000

per mile of completed road. The lines to be hereafter constructed and paid for out of this loan are enumerated as follows:

1. From Sherman to Fort Worth, eighty-four miles.
 2. Henrietta, in Clay county, to Wichita Falls, eighteen miles.
 3. Waxahachie to Trinity, in East Texas, 140 miles.
 4. Colmesneil, in Tyler county, to the Sabine, forty miles.
 5. Lockhart to Smithville, Bastrop county.
 6. From the company's present terminus at Boggy Tank, in Colorado county, to Houston, eighty miles.
 7. A line from a point on this last line at or near Pattison, through the counties of Waller, Harris, Fort Bend and Brazoria to Velasco, eighty miles.
 8. Cogeland, on the company's present line, to the city of Austin, twenty-six miles.
- The bonds which are authorized to be issued in denomination of \$1,000 are 5 per cent. and due in 1942.

Mobile & Ohio Figures.

In advance of the annual report of the Mobile & Ohio for the year ending June 30 the New York *Financial Chronicle* gives the following figures:

OPERATIONS	1890-91.	1891-92.
Total miles operated.....	687	687
Passengers carried.....	685,755	648,450
Passenger mileage.....	20,316,276	19,585,202
Average rate per passenger	2.36c	2.12c
Tons moved.....	1,645,296	1,665,918
Tons moved one mile.....	3,612,930	3,021,969
Average rate per ton per mile.....	.866c	.845c
EARNINGS, EXPENSES AND CHARGES.	1890-91.	1891-92.
Total gross earnings.....	\$3,559,138	\$3,443,750
Total operating expenses.....	2,236,542	2,241,919
Taxes and insurance.....	160,883	115,549
Net earnings.....	\$1,215,712	\$1,086,293
Interest and rentals.....	1,058,264	1,044,131
Surplus.....	\$157,448	\$42,162

There should be added to the \$42,162 surplus as above in 1891-92 the balance on hand June 30, 1891, \$17,415, and proceeds of bonds and stock sold, making \$206,487 in all.

Receipts as above.....\$206,487
Expended for new equipment and additions to property:
Principal car-trust debt matured and paid.....\$117,655
Cost 200 coal cars.....69,902
Real estate, gravel pits, etc.....4,350
New sidings and extension, M. & O.....18,714
Construction, reducing grades, etc., St. L. & C.....7,451

Excess of expenditures over receipts...\$11,581

Chesapeake & Ohio Annual Report.

The annual report of the Chesapeake & Ohio Railway Co. for the year ending June 30 shows: Total lines operated, 999 3 miles. The gross earnings and expenses for the year ending June 30, as compared with the previous three years, were as follows:

	1889.	1890.
Gross earnings.....	\$5,290,000	\$7,161,949
Operating expenses.....	4,390,000	5,611,968
Net earnings.....	900,000	1,549,981
Charges.....	1,250,000	1,747,842
Deficit.....	350,000	197,861

	1891.	1892.
Gross earnings.....	\$3,127,111	\$2,004,599
Operating expenses.....	6,083,519	6,731,731
Net earnings.....	2,043,591	2,272,867
Charges.....	1,823,781	1,881,548
Surplus.....	219,810	391,319

The business of the company at Newport News has been very heavy, and the completion of the extensive improvements now in progress there will increase the capacity of the terminals nearly 50 per cent. The value of exports to foreign countries from Newport News increased from \$10,961,744 in 1891 to \$14,444,367 in 1892.

The output of coal for the year was 2,403,075 tons against 2,275,698 tons in 1891.

The cost of road and equipment as per balance sheet June 30, 1892, was \$118,920,020. During the year the thirty miles of second track have been added on the

Mountain division; forty-eight new locomotives have been added during the year and twenty more have been ordered; thirteen passenger and 400 coal cars have also been added.

The floating obligations of the company are \$1,564,710, with cash offsets of \$1,729,208 and supplies on hand of \$338,796.

The capital stock is reduced from \$71,000,000 to \$62,394,500. The funded debt is \$55,333,713 against \$38,360,016 last year.

Number of passengers carried was 1,942,482, an increase of 250,410. The rate per mile was 2.181 cents against 2.155 cents in year preceding.

The freight tonnage was 4,558,864, an increase of 392,762. The rate per mile was .518 cent against .525 cent.

There is now being expended upon the system some \$4,000,000 of new money for double track, branches, wharves, piers, yards and equipment, in the expectation that it will lead to a further development of the property.

Receivers for the Bristol, Elizabethton & North Carolina.

On the 20th instant at Bristol, Tenn., the papers were filed placing the Bristol, Elizabethton & North Carolina Railroad in the hands of Messrs. B. L. Dulaney and F. B. Hubbell as receivers. This move is said to be solely for the purpose of facilitating the work of the Unaka Construction Co., so that they may be satisfactorily settled. Work on the road is to be continued right along, and it will be put in condition for traffic as soon as possible.

Gulf & Ship Island Railroad.

The controversy between Harrison county, Miss., and the Gulf & Ship Island Railroad was brought up at Mississippi City on the 16th of August in the United States court. An agreement of counsel was submitted and received by which T. J. Stewart is appointed by the court as receiver of the road, with authority to raise money by the issuance of certificates, and to put in repair the portion of the road now running and extend it as contemplated by its charter.

A New Louisiana Railroad.

The Alexandria & St. Louis Railway Co., with a capital stock of \$3,300,000, has filed its charter at Monroe, La. The incorporators are Messrs. F. G. Hudson, John P. Parker, L. D. McLain, A. C. Hough, W. A. Bright, R. B. Blanks and I. J. Newton, all prominent business men of Monroe. This road is designed to commence at a point on the line of Louisiana and Arkansas, and will run in a southwesterly direction through the parishes of Morehouse, Ouachita, Caldwell, Catahoula, Grant and Rapides to Alexandria, La.

Railroad Notes.

HUGH L. BOYD, JR., has been appointed general counsel of the receivers of the Richmond & Danville Railroad Co., with office at No. 1300 Pennsylvania avenue, Washington, D. C.

THE Missouri, Kansas & Texas Railway Co. has commenced work at Denison upon new yards which will be the most extensive in Texas. The yards will embrace about fifty miles of siding.

THE monthly statement of earnings and expenses of the Baltimore & Ohio Railroad for July shows gross earnings for the entire system of \$2,089,883.26, a decrease of \$129,193.91 as compared with the same period of last year. The expenses were \$1,554,984.69, being an increase of \$39,451.76. The net earnings were \$534,898.57, being a decrease of \$168,645.67.

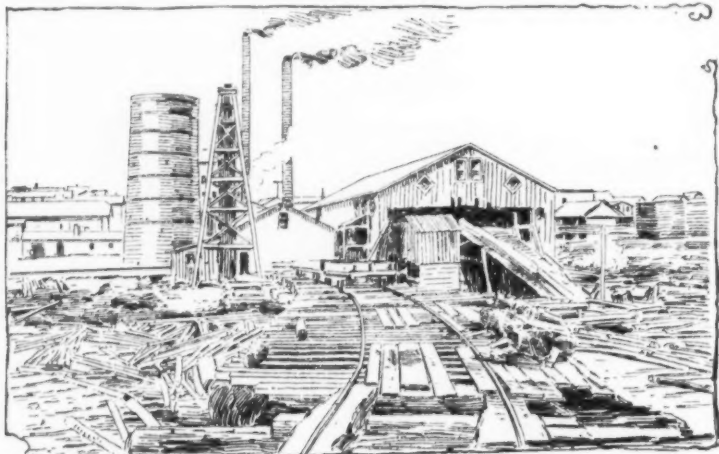
JUDGE MARSHALL J. CLARKE, at Atlanta, Ga., has denied the petition of the Central Trust Co., of New York, asking the removal of T. W. Garrett as receiver of the Atlanta & Florida Railroad Co.

LUMBER.

[For lumber market reports see pages 75 and 76. In the Construction Department, on pages 78 and 79, will be found a complete record of new mills and building operations in the South.]

Blackwater Boom & Lumber Company.

The Blackwater Boom & Lumber Co., which carries on extensive operations in the territory surrounding the town of Davis, W. Va., on the West Virginia Central & Pittsburg Railway, has been in busi-



BLACKWATER BOOM & LUMBER CO., DAVIS, W. VA.

ness for about five years, and its mills at Davis have a daily output of about 60,000 feet of lumber, 35,000 laths and 10,000 clapboards. The company has about 50,000 acres of timber land lying along the Blackwater and its tributaries, covered chiefly with spruce, with some hemlock, ash and cherry. The Blackwater is a good logging stream, and with the splash dams which the company has put in about two and a half and twelve miles above Davis, there is usually water enough to answer all purposes. The Blackwater, however, is not the sole dependence of the company, for there is a standard gauge railroad running up the river for about ten miles, with

by a chain conveyor to the burner, a cylindrical brick stack of unusually ample proportions which was designed and built by the company.

A few hundred yards from the saw mill, and separated from it by an open space, is the planing mill and a Sturtevant dry-kiln of 50,000 feet capacity. The planing mill contains circular resaw, planers, matchers, clapboard machinery and box-board matcher, in which a number of the leading makers are represented—S. A. Woods Machine Co., Goodell & Waters, J. A. Fay & Co. and others. Adjoining the planing

mill are sheds for storage of dressed lumber.

Midway between the saw mill and planing mill there is a pumphouse with a powerful Knowles fire pump always under steam, which can be taken from the boilers in either mill in case connection with the other should be cut off by fire. The yards and mills have a complete system of service pipes, hydrants and hose, and this provision against fire has already proved its value. Last December, just as the installation of the pump and fixtures was being completed, the dryhouse caught fire, and although the house itself with its contents was destroyed, the engines and fans and



BLACKWATER BOOM & LUMBER CO., DAVIS, W. VA.

numerous branches, by which logs are delivered into the pond at the mill, where 4,000,000 to 5,000,000 feet of logs are usually kept in reserve.

The plant is well equipped with modern machinery and appliances for handling logs and lumber and disposing of waste. The saw mill contains a circular built by Clark Bros., Belmont, N. Y., a Stearns log haul and a double-edge from the same makers, and trimmer, slasher, lathe and clapboard machines and other accessories. The slabs are peeled and trimmed and sold as pulp wood, and as the small stuff goes into laths, the amount of waste is comparatively small. The waste is carried

the adjacent planing mill were saved. The entire plant is also equipped with electric lights, which greatly facilitate night work.

The shipping facilities of these mills are admirably adapted for convenient and easy handling of the output. The shipping platform extends for 2,000 feet along the West Virginia Central & Pittsburg Railway, and an iron tramway extends the entire length of this platform with numerous spurs on the yard platforms, reaching every pile in the yards.

The output of these mills is sold largely in Philadelphia, where the principal selling office of the company is located, and the company also has a large New Eng-

land trade. Considerable quantities of boards have been exported to South America from Baltimore, and the company hopes to see a large trade in that direction in the course of time. A large proportion of the output of the mills is heavy plank, dressed and grooved, three inches thick by ten to thirty feet in length.

New Resawing Band Saw Machine.

This machine will use saws as thin as twenty-four gauge and up to six inches wide. It will saw 16,000 to 20,000 feet per day, making a kerf of only one-twentieth of an inch or less, where most resaws make three-thirty-seconds to one eighth more.

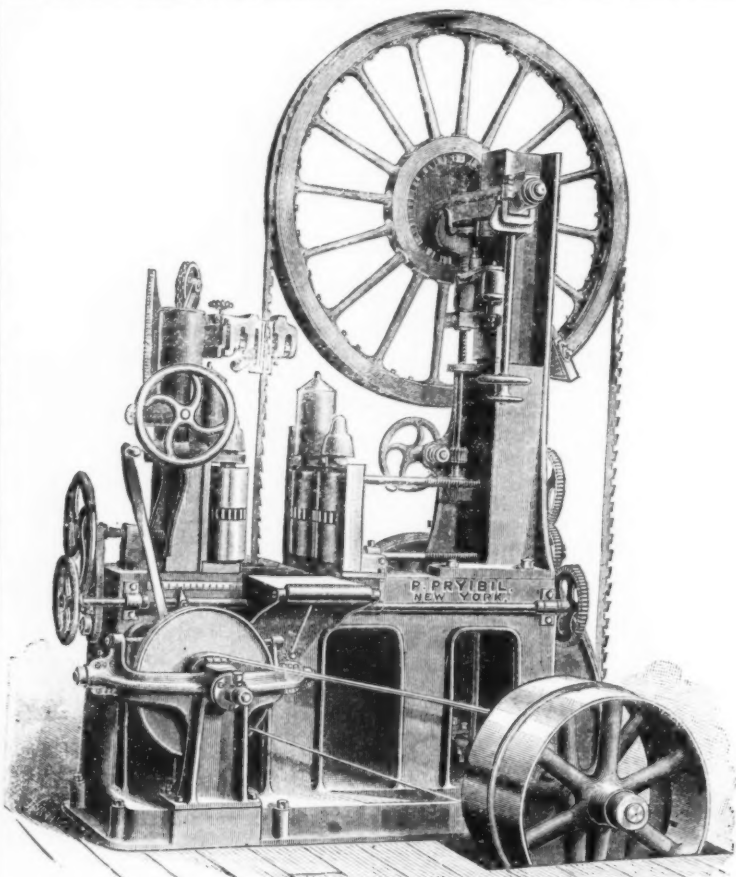
The feeding is effected by four strongly-gearred live rolls, while two smaller idle rolls guide the last end of the stock up to the finish cut. Strong springs hold the rolls upon one side up to their work, and enables them to yield to all inequalities of thickness or shape, while the rolls upon the other side form a guide in perfect line with the saw, thus insuring a cut parallel with

thickness they are set are all accessible from the sawyer's working position.

The upper wheel has a rim of bent ash with steel spokes, and the lower one is a heavy iron casting. The lower wheel being thus much the heavier, acts as a fly-wheel to prevent sudden and violent fluctuations of speed, as in starting and stopping, and thus prevents the over-running of the upper wheel, which, being lighter, is capable of following the motion of the lower one without causing the saw to slip or to become slack on the working side.

The rims of both wheels overhang the ends of the bearings, which latter are self-oiling. The overhanging feature effects the same result that some makers attain by the use of a clumsy and complicated arrangement of outside bearings.

The upper shaft can be angled while in motion. An adjustable spring maintains a proper tension on the saw, and renders it much more secure against breakage than the weights commonly used for this purpose, as the inertia of weights prevents them from yielding quickly enough when a



NEW RESAWING BAND SAW MACHINE.

one side of the stock. A friction device controlled by a single lever enables the feed to be instantly stopped and started, or to be run at any speed desired without changing belts. With machines employing step pulleys or gears for changing the feed one speed may be just a little too much and the next one not near enough, resulting in decreased output.

The saw runs between hardened steel plates filled with dogwood plugs, with the end grain in contact with the saw, and each plate can be accurately adjusted by a single screw.

The back of the saw has a bearing one and one-half inches long on the beveled edge of a conical roller of a special composition harder than steel. What little wear does occur takes place across the full width of the beveled surface, and therefore does not form grooves, as would be the case with a plain roller.

The upper guide is counterbalanced and is adjustable, vertically, by a hand-wheel. This hand-wheel, the lever for controlling the feed, the hand-wheel for setting the feed rolls and the scale showing to what

chip gets between the saw and the wheel, the result being a broken saw. To provide doubly against such an accident, a wooden block is fitted in the throat between the saw and wheel so as to catch all chips and sawdust and discharge them beyond the rim. The lower wheel is kept free from accumulations of sawdust by a scraper and the upper one by a brush.

The body is a box-shaped casting in one piece, very strong and rigid, and it can be placed on any good floor without a special foundation.

The loose pulley is self-oiling, one inch smaller in diameter than the tight pulley, to slacken the belt when the machine is stopped, and it is provided with a step at the inner edge to cause the belt to shift easily.

Height of machine, ten feet seven inches; width, seven feet five inches; depth, six feet six inches; weight complete, 7,000 pounds; diameter of wheels, sixty inches.

The driving pulley is made twenty-two to thirty inches diameter, as ordered for an 8-inch belt.

The speed is 450 to 525 turns per minute, according to kind and width of lumber.

The thickness taken between feed rolls is twenty-one inches, twelve inches on one side of the saw and nine inches on the other. Height of stock that can be sawed off, thirty inches.

Any further particulars can be obtained from the manufacturer, P. Prybil, 508-520 W Forty-first street, New York city.

How to Dry Cypress.

Until recently manufacturers depended on the air and sun to dry their cypress lumber. Within the past two years several large mills have been erected in Louisiana and some in other portions of the South. The proprietors of these new mills have put in modern machinery and appliances, and have thus secured great capacity and the utmost in respect to quality of manufacture. This new movement has caused a notable increase in the amount of cypress lumber pressing on the market. The demand has amply responded, as it usually does when a really meritorious product is energetically pushed into recognition. It has become necessary to meet the require-

There is a divergency of opinion as to whether it is preferable to "deadend" cypress before sawing as preliminary to drying by the damp process. One Louisiana manufacturer thinks that green timber, right from the stump, sawed and put through the kiln, makes the best lumber. Another prefers logs cut from deadened trees. Probably the better method of the two has not yet been fully determined. Both sides have good theories, arguments and experiences to offer. Further experiment will doubtless establish facts in respect to drying cypress, cutting timber and the relation between the two operations that have not as yet been fully demonstrated. While advanced methods are being tried, there are manufacturers who will continue to rely on Old Sol and the circumambient element as the best drying means available. It is worthy of note, however, that the recent energy that has been infused into the cypress industry has induced manufacturers to seek advanced methods to accelerate the movement of lumber. An enlarged and exacting market requirement demands this,

feed rolls after the saws and one roll above the saws, all driven, the top roll running in the opposite direction to the feed to return the stock to the operator when necessary; also two upper feed rolls, one before and one after the saws. These are made to raise and lower at one operation when a change of thickness is desired, and from the working end of the machine.

The machine takes in stock thirty inches wide, six inches thick, and will cut from one-half inch to nine inches wide between the right-hand saw and long guide and as narrow as three inches between the other saws. Two saws and the long guide are adjustable, governed by levers and an index to suit the different widths to be cut.

The mandrel is of the best quality of steel, of large diameter, double key-seated, and runs in three large journal boxes, with the pulley placed between the two outside boxes.

The makers furnish with the machine five saws eighteen inches diameter and the wooden tables each side of the machine.

These machines are built by the Egar

Ga., have completed their new saw mill and commenced operations and are now preparing to put in a planing mill and dry-kilns. The firm controls sufficient timber to run its plant for twenty-five years.

MESSRS. F. B. STUBBS & BRO. have shut down their mill for thirty days in order to make necessary repairs. They intend constructing a tramroad and putting in steam logging equipment in the near future.

The interest of McClaney & Griffin in the saw mill of R. J. Griffin & Co., at Leaox, Ga., has been purchased by R. G. Borden, of Fernandina, Fla., and he will assume active control of the plant.

HENRY WEIR will continue the operation of the Weir & Hamilton plant at Kismet, Tenn.

MESSRS. ROBINSON & BOOTH, of Fernandina, Fla., are now loading vessels at that port with 1,300,000 feet of lumber, and have orders for 200,000,000 feet more.

MCLEOD & YOUNG have resumed operations in their plant at Mincola, Ga. They

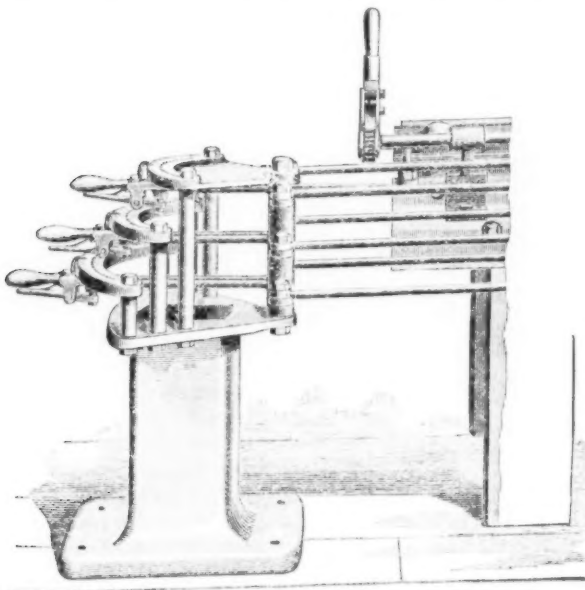


FIG. 1.

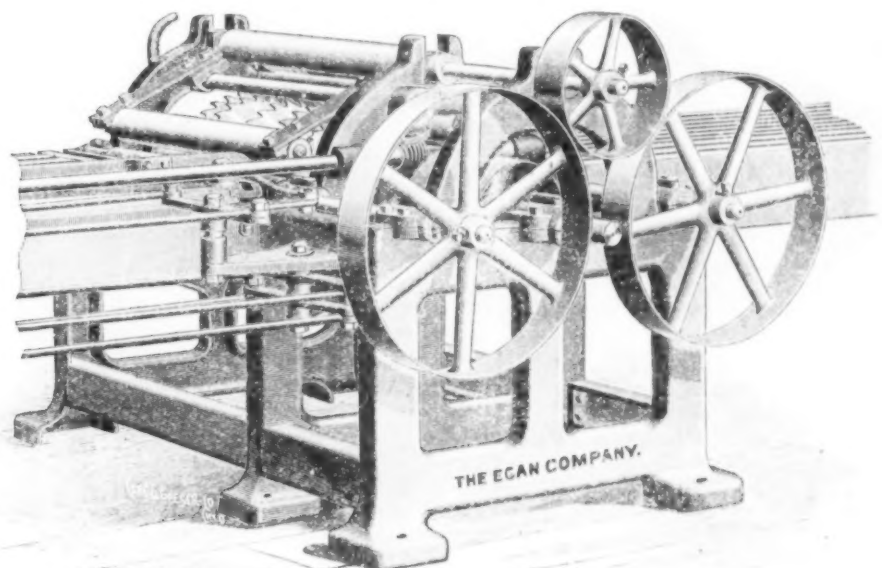


FIG. 2.

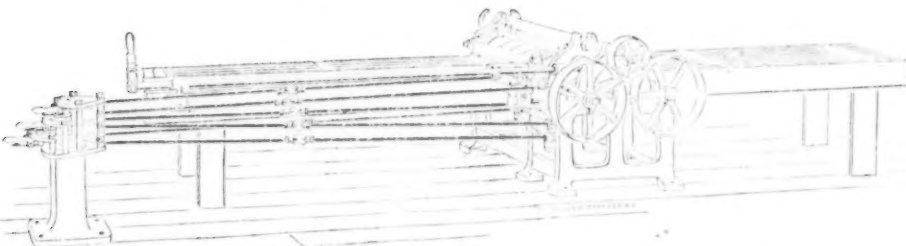


FIG. 3.

GANG RIP SAW AND EDGER.

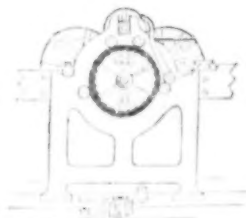


FIG. 4.

ment of an enlarged Northern and Western demand by more rapid methods in drying than once prevailed. The kiln has been brought into requisition with more success than was once thought possible. It had been said that cypress must be dried in the open air, and that the modern way of drying in kilns was not adapted to the peculiarities of the wood. But that assumption has, in a large measure, been disproved. The dry heat method has been successful. Two large Louisiana mills—perhaps more—have been supplied with steam-heat kilns. The process involves a high degree of heat, without ventilation, and an extraordinary dampness of atmosphere. It is a veritable sweater, the sap and natural juices of the timber being steamed or boiled out of the fibre of the wood. The bottom of the kiln is of sand, into which the drippings from the wood and kiln drop, saturating the sand until it is almost converted into mud. After the sweating process has continued for a certain length of time the kiln is thrown open, the outer air admitted, the moisture dissipated and the lumber is turned out dry.

and operators appear eager to meet the emergency with every available modern appliance.—*Northwestern Lumberman.*

Gang Rip-Saw and Edger.

These cuts represent a new gang rip saw and edger combined, suitable for heavy or light work, using from one to five saws on the mandrel and ripping that number of pieces at one and the same time. This machine will be found very profitable for use in saw mills, large planing mills and for general dimension stock. It is very simple to operate, not liable to get out of order, and very quick of adjustment and of great capacity.

The main frame is of iron, heavily braced and capable of standing up to the heaviest work the machine is intended to do. The journal boxes are extra large and lined with best genuine Babbitt. One of these journal boxes is made so that it can be instantly taken off by taking out two pins when it is desired to change the saws or sharpen them.

The feed is very powerful, consisting of two feed rolls before the saws and two

Co., 225 to 245 W. Front street, Cincinnati, Ohio.

Southern Lumber Notes.

THE Virginia Lumber Co., of Graham, Va., has reorganized and obtained a new charter under the name of the Graham Lumber Co. with a capital stock of \$150,000. Arrangements are now being made to put the mills in operation immediately. J. H. Dingee has been elected president of the new concern; Wm. Mitchell, secretary and treasurer, and E. Dundon, general manager.

THE Bowie Lumber Co., of Texarkana, Texas, has resumed operations at its mills.

THE Edwards Lumber Co., which is composed of St. Paul (Minn.) capitalists, has purchased the property of the Gray Lumber Co., in Crittenden county, Ark. The property consists of 6,700 acres of land on the Mississippi river, estimated to cut from 75,000,000 to 90,000,000 feet of oak, ash, gum and cottonwood, and a one-band saw mill with a capacity of 50,000 feet daily.

MESSRS. GRAY & GATCHELL, of Leliaton,

shut down some time ago on account of low prices.

MR. SHOFFNER has removed his saw mill from Mount, Tenn., to Johnson's Grove, where he has a contract to saw 500,000 feet of lumber.

L. C. HADEN has obtained contract to furnish 100,000 feet of lumber for a new mineral wool factory which is to be built at Baena Vista.

THE Peters Lumber Co., of Alto, Ala., will let contract on September 10 for logging a group of pine timber in Conecuh county estimated to contain about 40,000,000 feet of lumber.

MESSRS. McEWEN & MURRAY, Salmen Bros. and Athens & Co., all of New Orleans, have purchased 6,000 cypress logs which they intend to saw at their mills. The logs are estimated to cut about 4,500,000 feet of lumber.

THE W. P. Boshier Lumber, Manufacturing & Building Co., of Petersburg, Va., has purchased site at Newport News and will at once arrange for the erection of a planing mill plant.

Manufacturers' Record.

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THOMAS P. GRASTY,
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F. W. ROLLINS, Manager.

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BALTIMORE, AUGUST 26, 1892.

Notice to Advertisers.

*The last forms containing advertisements
are closed on Tuesday afternoon. New adver-
tisements or changes should be received not
later than Tuesday noon to ensure attention
in the issue bearing date of the following
Friday. Reading matter should be in our
office on Wednesday, although late news can
be received early Thursday morning.*

THE port of New Orleans is reaching
out for a large share of the grain trade of
the Northwest, and the movements of
operators in this direction is becoming
more apparent every day. Late advices
state that Orthwein & Co., of St. Louis and
this city, and Hall & Robinson, of Kansas
City, have leased from the Texas & Pacific
Railroad the mammoth Westwego elevator.
This elevator has a capacity of 350,000
bushels and a storage capacity of 1,000,000
bushels. It is now a private enterprise,
and the change will no doubt be beneficial
to the port, as these firms control a large
quantity of grain which will now be di-
verted from Eastern ports.

MR. FRANK P. BENNETT, the proprietor
of the *American Wool and Cotton Reporter*, is
trying a very interesting experiment in
sheep husbandry in Maine. For this pur-
pose he has purchased several abandoned
farms, consolidated them into one, and is
now stocking the place and preparing for
breeding. The prime object of this ex-
periment is to ascertain definitely and
accurately the possibilities of raising sheep
with profit in that climate and upon that
soil, and thereby indicating the means by
which a great amount of land useless for
agriculture can be utilized. We under-
stand that it is Mr. Bennett's purpose to
raise sheep for mutton rather than for
wool. We should like to see similar ex-
periments conducted in Eastern North
Carolina, where there are thousands of
acres of land from which the timber has
been cut and which is at present of little or
no value. Apparently there exists every
condition requisite for successful sheep-
raising, and we believe that not only good
mutton, but also satisfactory wool could be
raised there with profit. We hope to see
some experiments tried in that section, for
we believe that experiments would quickly

lead to an important and profitable in-
dustry.

WE are profoundly grateful for the de-
cision of Judge McCormick, of the United
States Circuit Court, by which the Texas
Railroad Commission is enjoined from en-
forcing any of the rates already announced,
and from fixing any further rates. The
attorney-general and other persons are
restrained from instituting suits for
penalties against the railroad companies
for violation of the commissioners' tariffs.
The hearing was upon an application for
a preliminary injunction covering this re-
lief. Judge McCormick granted the relief
in the terms prayed for by the trustees and
the railway companies. The injunction in
terms is preliminary, but the act has been
declared unconstitutional, and this vir-
tually means new life for the railroads in
Texas. There are 9,860 miles of rail-
roads in Texas, assessed at \$786,000,000,
but very few of them have ever paid di-
vidends, and most of them have been unable
to earn interest on their bonds. The rail-
road commissioners have been responsible
for this condition of affairs on account of
their arbitrary reduction of freight rates to
the extent of 15 to 40 per cent. The de-
cision of Judge McCormick will have a very
beneficial effect upon the railroads in
Texas, and a very helpful influence upon
all business interests of the State, which
have been almost paralyzed by the anti-
corporation sentiment of Governor Hogg's
administration.

THE phenomenal success that has thus
far attended the culture of peaches in
Georgia promises a great future for that
industry and an immense benefit to the
State. Those who have closely followed
the recent development of the peach-
growing business in Georgia are very en-
thusiastic over the future possibilities.
One gentleman, a Philadelphia fruit mer-
chant, said to us recently as he was coming
up from the South: "The peach orchards
are going to revolutionize the whole State
of Georgia." He added, as an evidence of
his faith, that he had just set out an
orchard of 100 acres merely as a side in-
vestment. Discounting the enthusiasm of
interested parties, the fact remains that
wonderful peaches are being raised in
Georgia and shipped to the North and
West, where they are sold for higher prices
than can be obtained for any competing
fruit. As yet the business is in its in-
fancy, but it is growing at a surprising
rate, and the possibilities are seemingly
unlimited. When land that is worth from
\$15 to \$20 per acre can be made to yield
in profits \$150 to \$300 per acre each year
with a crop that requires but little care or
attention, there is no mystery about the
causes of the growth of such an industry.
The peach-growing business in Georgia is
fully and intelligently treated in an article
which we print on another page, and it
contains much that ought to interest our
readers.

English and American Coal Mines.

IT is when we compare our American
bituminous coal mines with the workings
in Great Britain that the extreme simplicity
of our methods and the ease with which
coal is reached in this country become
strikingly apparent. In the *Colliery Guar-
dian* of two weeks ago there is a descrip-
tion of the Astley colliery in the Cheshire
coal field, which should be read with
interest by American miners, simply for

the contrast that it affords. At this colliery
there are two shafts 150 feet apart, and
reaching to a depth of 2,095½ feet. With
the exception of 150 feet of cast-iron tub-
ing, each shaft is lined throughout with
nine inches of brick work. The sinking
of these shafts occupied ten years, and the
cost of this work, together with the pump-
ing and hoisting plant, was about \$500,000.
The pumping is all done from the surface
by an engine with cylinder seventy by
ninety-six inches which has been in use
since 1848. The pump rods are pitch-pine
timbers, fourteen inches square at the top
of the shaft and diminishing to seven
inches square at the bottom. The hoisting
is done with a more modern engine, with a
single cylinder sixty by eighty-four inches.
The drums are twenty-four feet in diameter
when bare, and the hoisting ropes are flat,
four inches by seven-eighths of an inch,
each 2,490 feet long and weighing five and
a-half tons. This expensive and cumber-
some plant gives outlet to three seams of
coal, one averaging four and a-half feet of
clean domestic coal, another three to five
feet of cannel, and the third two and
a-half feet of steam coal.

Let us turn from this to one of our easily
worked mines, say, for example, in the Elk
Garden district of West Virginia, where
mining has all the simplicity of digging in
a gravel bank. The coal lies 2,400 feet
above sea level; there is neither water nor
gas; the seam is thirteen feet thick, with a
slate parting one to three inches thick and
two feet from the floor; the vein lies in a
nearly horizontal position in the knobs
that rise from the high plateau, and coal is
reached almost at the first turning of the
soil; in fact, the superintendent of the
Elk Garden mines enjoys the rare privi-
lege of a natural coal bin with thirteen
feet of fuel in the hillside not fifty yards
distant from his kitchen. Nature could
not have made coal mining simpler than it
is in this field, and this is only one of
hundreds of readily accessible coal de-
posits in this country. Even under the
most adverse conditions we are not com-
pelled to go as deep and to spend as much
money to get so little coal as they do over
across the ocean.

Advertise the South.

We find in *Southern Commerce*, a journal
published in Memphis, Tenn., this sensible
appreciation of the benefits that may be
conferred upon the South by advertising
its resources:

There is a valuable lesson contained in the fact
that properly directed displays of the South's
progress and promise, founded upon resources
which no other section can approximate, consti-
tute a strong hope for the country. Nothing that
is intelligently done in that direction is wasted.
A few years since the Lumber Exchange of this
city fitted up a car with the various marketable
woods growing in this immediate territory, and
sent it on a too brief tour of the country. At that
time the lumber interests of Memphis, while vast,
were not known or considered by the public,
local or outside. Whether due to that bit of in-
dividual enterprise or not, the fact stands out
in strong colors that lumber to day is universally
recognized as a local interest well in the front,
and continually advancing. New woodworking
enterprises and timber-purchasing agencies are
more frequently announced than are any other
line of industries, and Memphis enjoys high rank
as one of the world's markets.

Shortly after the Memphis timber advertising
car was returned and dismantled, two cars from
Texas, containing exhibits of the products of
that State, halted in this city for several days.
From here it moved toward the East. In one
year the Texas exhibit went through eighteen
States, over twenty-three lines of railroad and
traveled a distance of 19,000 miles. Nearly
2,000,000 people passed through the cars and
twenty two tons of reading matter and maps were
distributed. The daily press gave the exhibit
280,000 lines of matter, 13,400 people have been
induced to go to Texas and 400 emigrant agents

have been secured in as many towns. The Texas
exhibit received universal encouragement in all
places to which it went, and has probably done
more actual good for the State than many times
the same amount of money it cost if expended in
other ways.

Were there a more general realization of
the good results that can be obtained by
such advertising object lessons as these,
the South would enjoy a much more rapid
development than is now in progress. Printer's ink is a powerful factor in the
growth and development of any section,
but its influence can be many times in-
creased by using it in conjunction with
advertisements that appeal more strikingly
to the eye. Object lessons form the most
effective kind of teaching, and if we want
to educate the world in the special
branch of Southern resources and possi-
bilities we can do it most impressively
and most thoroughly by showing the actual
factors in the importance of the South.
The people who are most firmly convinced
of the possibilities of Southern develop-
ment are not those who only read about
the resources of the South, but they are
those who see as well as read, who actually
view the South as nature made it and as
man has developed it, at the same time
reading intelligently what has been written
by well-informed men.

But every man cannot travel through the
South and see for himself what is there.
To those who cannot go to the South the
South can be carried in its typical ele-
ments. An exhibition car carefully and
intelligently equipped is a most powerful
missionary to send abroad in the land,
and conveys information to thousands of
people who otherwise would remain in
ignorance of the actual character of South-
ern resources.

The periodical industrial exhibitions in
various large cities are another form of
this same opportunity, and the use that has
been made of these mediums of advertising
in years past has invariably produced good
results. Just now the World's Fair pre-
sents the grandest opportunity of this char-
acter that has ever been offered, and the
failure of the South to use to the fullest
possible extent this occasion for attracting
the attention of the world would be nothing
less than criminal carelessness.

Think of this.

The Richmond Terminal Wreck.

Somebody has looted the railroad prop-
erties that form the Richmond & West
Point Terminal Railway & Warehouse Co.
Somebody has reduced three of the best
railroads in the South from a condition of
dividend-paying prosperity to bankruptcy
and receivership. Somebody has been fill-
ing his pockets with money that properly
belongs to the stockholders of these rail-
roads. In short, there has been a theft—
evidently several of them—in the Rich-
mond Terminal management for a year or
two past. Where does the guilt lie? We
need not venture upon any prophecies, for
as matters are now shaping themselves the
men who have wrecked the Terminal
properties are gradually coming to a posi-
tion where their identity is unmistakable.

The advisory committee of Richmond
Terminal stockholders has made some
pretty pointed charges of dishonesty on
the part of the officers and directors, and
asserts its ability to prove that there has
been gross irregularity in the management.
The substance of the charges is that cer-
tain trustees of the Terminal company
have profited, with their friends, to the ex-

tent of \$3,000,000 to \$4,000,000 in the transfer of the Georgia Central stock to their company; that \$1,800,000 of Georgia 3½ per cent. bonds were purchased with money borrowed at 6 per cent.; one of the Terminal directors has made large drafts upon the treasurer for which no vouchers or explanations appear, and that another director has been paid \$115,000 for alleged financial services.

Here is what the committee has to say about the bankrupting of the Georgia Central Railroad:

It further appears that this Georgia Central Railroad Co., although alleged to be earning some 12 per cent. upon its stocks when so purchased by your company, and although it has remained in the management of the trustees who at the same time sold it for themselves and bought it for you, has under this management since become bankrupt, and by a strange coincidence, although purchased by you at a price so profitable to the sellers, the moment an attempt was made by your company, through its control of the stock, to dispend with the valuable services of these same trustees, this same Georgia Central Railroad Co. was taken out of your hands by the action of a Georgia judge, and this high-priced stock which you had paid for, and which it was supposed your company owned, was promptly disenfranchised by this same judge.

Pat Calhoun and John H. Ilman have indicated a sense of guilt by hastening to reply to these charges, but their explanations are decidedly hazy, and complete silence on their part would have left them in as good a position in public estimation.

The advisory committee's charge against the officers and directors of the Richmond Terminal Co. cover only a portion of the suspected dishonesty by which bankruptcy has been brought to once prosperous and profitable roads. A complete and searching investigation of the doings of the Richmond Terminal directors during the past few years would produce some startling results. There are some honest men among the Richmond Terminal directors, but unfortunately for them they have been in bad company, and the sooner they clear themselves the better they will stand in public opinion.

Now what is to be done with the men who have bankrupted the Richmond Terminal properties? That it has been done by dishonesty cannot be disputed, and the men who have stolen the money of the stockholders ought to be made to suffer for it. It is the duty of the stockholders in these roads to reach these men by the aid of the law, and not rest until a full measure of justice is meted out. The robbing of railroads has come to be regarded as an honorable occupation by men who would unhesitatingly send a beggar to jail for stealing a loaf of bread. Men of the type of those who have wrecked the Richmond Terminal companies regard loose cash in a railroad treasury as their legitimate spoil, and they help themselves with a complacency that is startling. Here is an opportunity to teach a wholesome lesson in morality and to destroy the theory that the magnitude of a theft minimizes its criminality. If one of these Terminal looters had been detected in the act of stealing a stranger's watch he would have been sent to jail without hesitation, but the crime is now of such magnitude that even its criminality is subject to discussion.

Nevertheless, the penitentiary is the proper place for several of these gentlemen.

An order has been made by Judge Jackson, of the United States Circuit Court at Knoxville, Tenn., permitting the receivers of the Louisville Southern Railroad to expend \$15,000 in widening cuts and making proper grades, and \$15,000 in ballasting the road-bed with stone and gravel.

WORLD'S FAIR NOTES.

What Is Being Done Towards Representing the South at Chicago.

TEXAS.

It is to be regretted that the preparations in Texas for representing the State at Chicago should have been so long in assuming permanent shape, and that an organization formed for the purpose and promising the representation on a magnificent scale should have been found incapable of carrying out its plans and have abandoned any further efforts in that direction. Fortunately, however, the outlook for a Texas exhibit and building at Chicago does not now present the hopeless aspect it did at the time of the collapse of the Galveston plan. The Texas World's Fair Exhibit Association, having this plan in hand, decided some time ago to abandon all its efforts both in the erection of a Texas building and the preparation of an exhibit, owing to its inability to obtain the necessary co-operation.

The sources now from which attempts may be looked for to have the State exhibit its resources and advantages at Chicago are the Ladies' Auxiliary Association and the Texas County Exhibitors' Association, both of which have promptly come to the rescue and say they can take Texas to the exposition. Fearing that the woman's department might be involved in the failure of the Texas World's Fair Exhibition Association, those in charge of this branch of the work under Mrs. W. H. Tobin, of Austin, immediately got out articles of incorporation and had chartered the Women's World's Fair Exhibit Association of Texas. The incorporators are Mrs. W. H. Tobin, Mrs. J. M. Boroughs, Mrs. V. C. Giles and W. B. Wortham. As August 1 was the latest date at which the site for the building could be reserved, this association only had a few days to decide what they would do, but told Commissioner John T. Dickinson to reserve the Texas site and they would be ready to begin work immediately. The Lumbermen's Association have promised enough lumber for the building, and there has been placed on deposit by the various boards of lady managers, conditioned on the erection of the building, a sum of over \$10,000. Mrs. Tobin intends making a personal canvass of all the larger cities of Texas at a near date. Mr. Carl Drake, of Austin, is agent for the ladies and has been authorized to contract for the erection of the building, which, however, will not be such an elaborate affair as was at first contemplated.

The Texas County Exhibitors' Association is also hard at work in the endeavor to collect a State exhibit, and report promising assurances of success. Under date of July 11 Chairman Sidney Smith, of the executive committee of the association, addressed a letter to Hon. Henry Exall, national commissioner at large, stating that to correct any impression that the abandonment of the plans of the Galveston people would involve a non-representation of Texas, he would say that the Texas County Exhibitors' Association, organized in the spring of 1891, had now on hand a creditable display of the products and resources of Texas for exhibition at the Columbian Exposition. The members of this association seem inclined to have a collective exhibit placed in one of the department buildings, and report that a space of 300x300 feet has been secured. Thirty counties have already enlisted in the movement, and it is expected that many more will join in the enterprise. The association has no debts, and its members are devoting themselves entirely to the collection of exhibits which they expect to assemble at the State fair to be held at Dallas in the fall. It is estimated that the total value of the collection already made is about \$25,000, and it is stated that the Texas &

Pacific exhibit in itself would be a handsome advertisement for the State. A collection of marine products has also been made at Rockport by Prof. H. P. Atwater, including all kinds of shell and game fish and fowls, properly mounted, a collection of mounted wild animals and an exhibit of the products of the coast country. There will also be included a large collection of natural resources of Texas by Prof. W. F. Cummins. The County Exhibitors' Association expects to pay its own expenses, and will need but a small amount of money for transportation and labor.

The Women's Association have selected Miss Elizabeth Ney, who lives near Hempstead, Texas, to execute in marble the statues of the Texas heroes which they propose to place on exhibition at Chicago. Miss Ney is a descendant of Marshal Ney, of France, and has executed busts of several public men in this country and Europe.

MARYLAND.

At the last meeting of the World's Fair Commission in Baltimore an order for a raised map of the State, at an expense of \$1,485, for exhibition at Chicago, was approved. The secretary of the commission was ordered to have printed for distribution 2,000 copies of a book describing the resources of the State, characteristics of the various towns and counties, number of manufactures, etc. The commission is sending circulars to the manufacturers of Baltimore for the purpose of stirring up interest among them in the direction of preparing exhibits of their manufactures at the exposition, as a very creditable show for themselves as well as the State could be presented at Chicago if the matter were properly taken up. Mr. Joseph M. Cushing, president of the Maryland Institute at Baltimore, has offered the use of pictures and works of art at that institution for the adornment of the Maryland building if expenses will be borne by the board of commissioners.

KENTUCKY.

The Board of World's Fair Managers are actively engaged in pressing the work of preparing Kentucky's exhibit for the exposition. Col. M. H. Crump, who has charge of the department of mining and forestry, has much progress to report in his branch of the work. His efforts heretofore have been directed chiefly towards securing exhibits of the coal, iron ore and forest resources of the State. The various coal fields have been visited and arrangements made for getting up sections of each kind of coal, for having portions of it coked and all shipped to Chicago. The coal exhibit will be shown in sections two feet broad, of the same thickness and as high as the same will permit, and on top of each section will be placed in pyramidal form the coke produced from each. There will also be displayed in connection with this exhibit a relief map of the State, showing the elevations, depressions, lines of communication, water-power and geology. The exhibit of iron ore is to be made in pyramidal form also, beginning with the lowest geological formation and going up to the highest.

In the forestry exhibit the trees will be arranged according to their characteristics in groups of six, the largest being used as the base of a pyramid. On each step of the pyramid the finished product of the variety of wood will be shown in various ways. It is thought that there will be on exhibition in this department not less than 120 varieties of trees found in Kentucky. The planing mills have agreed to contribute the woods necessary for finishing the State building. The commission is determined that the entire Kentucky exhibit shall stand in the first rank of those at Chicago.

LOUISIANA.

The World's Fair Board in Louisiana are pushing preparations for the repre-

sentation of the State at Chicago next year as actively as that of any State in the South. After some discussion and time taken to get the matter straight in the eyes of those interested, Governor Foster has appointed a board of control to handle the money appropriated by the legislature at its last session for World's Fair matters. Several of the members of the committee are representatives of the State association, and it consists of the following: A. A. Woods, Jos. A. Shakespeare, John Dymond, Leonard M. Finley, A. Brittin, T. J. Woodward and Lewis Johnson. In addition to these, Mr. John C. Wickliffe has been appointed a special salaried commissioner to travel through the State and devote his time to getting the work well under way. From arrangements as now made it appears that the above committee and commissioner will work harmoniously together with the State association in the collection of the various funds, etc.

At the last regular meeting of the World's Fair Association and the Ladies' Auxiliary information was received that the chief of construction at Chicago had approved the plans of the Louisiana building, and the building committee was authorized at once to solicit bids for its construction. Mrs. Perkins, of the Woman's Auxiliary, has received a letter from the president of the board of lady managers asking that specimens of Acadian cloth be sent to Chicago to decorate the felt rooms on the occasion for the benefit of the Children's Home. Communications have also been received expressing thanks and admiration for the carved and painted panels recently furnished by several ladies of Louisiana for the exposition. Nothing appears yet to have come from the efforts to secure co-operation on the part of the State Press Association, whose meeting was recently held in Alexandria.

COTTON EXHIBIT.

Mr. Alfred B. Shepperson, special agent on the cotton exhibit, has accepted two bales of Memphis cotton to be placed on exhibition at Chicago, and states as a prominent feature of the acceptance that no other entire bales will be taken except one bale of Sea Island cotton. Samples, however, will be exhibited from every county in which cotton is grown, and later on the Memphis Exchange will be asked for samples of every variety and style of cotton dealt with in their market.

The New Orleans Cotton Exchange has already forwarded last spring to the Department of Agriculture at Washington eighteen fine samples of the cotton handled at New Orleans for the Columbian Exposition. These samples were gotten up and forwarded in neatly-prepared boxes by Mr. C. L. De Fuentes, chairman of the committee on classification, and as many different styles and varieties as possible were obtained.

Tobacco in Georgia.

CORDELE, GA., August 22.

Editor Manufacturers' Record:

The people in this section are aroused on the subject of tobacco culture. This year many farmers have planted small patches of cotton, and the experiment has proved so successful that next year will find this staple extensively cultivated. There is no doubt but that the lands in South Georgia are as well adapted to the tobacco plant as to cotton.

There is now a splendid field here for a factory. The people are anxious to see established here a factory which will use the tobacco raised by the farmers. The crop is now shipped to North Carolina.

Cordele will encourage such a factory, and the man who seizes the opportunity will no doubt profit by his enterprise.

A communication on this subject addressed to Mr. W. W. Shipp, of this city, will receive prompt attention.

T. J. Brooks.

COAL AND COKE.

Cumberland Coal Shipments.

The shipments of coal from the Cumberland region for the week ended August 20 and for the year to that date have been as follows:

Companies.	Week. Tons.	Year. Tons.
Borden Mining Co.....	5,248.10	141,355.60
Consolidation Coal Co.....	22,541.09	559,803.10
Union Mine.....	3,673.09	97,973.12
George's Creek Coal & Iron Co.....	5,985.02	174,794.16
Swanton Mining Co.....		5,048.00
Potomac Coal Co.....	2,450.17	86,055.07
Franklin Cons. Coal Co.....	1,797.07	36,634.19
Piedmont Cumb. Coal Co.....		5,495.66
Barton & George's Creek Valley Coal Co.....	4,596.11	123,437.60
Big Vein Coal Co.....	1,478.14	41,775.10
Anthony Mining Co.....	122.15	6,115.00
W. Va. C. & P. (Elk Gar- den Mines).....	6,029.09	227,173.06
Atlantic & George's Crk Coal Co.....	909.19	28,142.16
Davis Coal & Coke Co.....	1,352.06	71,675.00
Thomas Mine.....	1,599.02	65,389.17
Davis and Elkins Mine.....	1,855.17	45,091.66
Cumb. Coal Co. (Doug- las Mine).....	713.00	42,415.00
Elk Garden Big Vein Mining Co.....	694.08	24,915.72
Hamshire Mine.....	494.10	19,538.09
American Coal Co.....	6,671.11	217,134.10
Maryland Coal Co.....	6,029.01	161,745.05
New Central Coal Co.....	4,259.18	125,750.16
Big Vein Coal Co.....		
Total.....	76,043.09	
Previously.....	2,246,489.18	
Aggregate.....	2,322,533.07	2,322,533.07

COKE SHIPMENTS OVER WEST VIRGINIA CENTRAL & PITTSBURG RAILWAY.

Companies.	Week. Tons.	Year. Tons.
Davis Coal & Coke Co.....	1,371.00	26,679.00
Thomas Coke Ovens.....	214.06	5,428.12
Cumberland Coal Co.....	384.00	11,195.00
Total for week.....	1,969.06	
Previously for year.....	41,323.06	
Year to date.....	43,302.12	43,302.12
Same period last year.....		49,482.08

Coal Shipments from Norfolk.

The shipments of coal from the port of Norfolk, Va., as given below show a steady increase in both foreign and coastwise during the current year. The clearances represented in the following table are reported by Messrs. Wm. Lamb & Co., agents at Lambert's Point:

	Tons.
No. tons exported coastwise.....	39,939.5
Br. stmp. Picton, bunker coal.....	219.5
Br. stmp. Blue Cross, bunker coal.....	210
Sp. stmp. Conde Wifredo, bunker coal.....	1,253
Sp. stmp. Saturnina, bunker coal.....	400.5
Br. stmp. Guy Colm, bunker coal.....	234
Br. stmp. Antilles, bunker coal.....	181
Br. stmp. Glengoil, bunker coal.....	450
Total amount for week ending August 18, 1892.....	42,887.55
Total amount to August 11, 1892, in- clusive.....	896,096
Total amount to August 18, 1892, in- clusive.....	938,963.55

An Automatic Coke Drawer.

A machine to draw coke ovens and load the coke in cars is thus described by the *Counsellville Courier*:

"The H. C. Frick Coke Co. will be the first to thoroughly test coke drawing by machinery. For some time past engineers have been at work in the Scottdale office maturing plans for a coke drawer. The test will be made at the Valley works, which is under the supervision of James Lynch. No definite time has been set for the experiment. The machine will be from eight to twelve feet long, and made of cast iron. A narrow-gauge track will be built along the yard about three feet from the coke oven fronts. Along this track the patent coke drawer will be run. Two men will be required to operate it. The coke will be watered by hand, as at present. Two scrapers, similar to the ordinary short and long coke scrapers in use, will be swung from the machine on a crane. These two scrapers will be manipulated by the men with the machine. The coke will be hooked down and scraped from the oven in much the same manner as by hand.

"Running from the iron coke drawer to the car on the track will be a long sheet-

iron scoop. The coke will be drawn directly from the oven into the car. This scoop, if satisfactory, will be the means of doing away with the enormous wheelbarrow and steep platforms over the cars. Wheeling the coke from the oven to the car is considered by coke drawers their hardest task. This device will greatly shorten the length of time in drawing the coke. Ordinarily it takes a coke drawer from an hour to an hour and a-half to draw an oven. The new coke drawer, it is expected, will do the work in one-third the time."

A New Texas Lignite Mine.

A spur track 800 feet long is being built from the Houston & Texas Central Railroad to reach a new mine that is being opened on an extensive deposit of lignite three miles west of McDade station, Bastrop county, Texas. The lignite lies about nineteen feet below the surface, and the vein that has been opened is twelve feet thick. An extensive plant is being installed for the operation of this mine, and the owner of the property intends to work the mine on an extensive scale. The lignite is said to be of good quality and suitable for steam raising.

Coal and Coke Notes.

THE Dayton Coal & Iron Co. has struck a 3 foot vein of coal in its new slope near Dayton, Tenn.

THE Ford Run Coal Co., which has just obtained charter at Philippi, W. Va., intends to construct and operate coke ovens on 1,000 acres of coal lands which it owns.

THE Davis Coal & Coke Co. has fired sixty more ovens in its extensive plant at Coketon, W. Va. Most of the ovens have been cold for some time on account of dullness of trade.

THE Belington Coal & Coke Co., at Custer, W. Va., on the new Belington extension of the West Virginia Central & Pittsburgh Railway, has completed twenty coke ovens and has sunk a slope to the coal seam, which is reached only about fifty feet from the surface. Regular operations have not yet been commenced.

Mining Matters in North Carolina.

CHARLOTTE, N. C., August 15.

The last spring, generally the time when this country is overrun with Colorado and California "miners," passed very quietly, and it may be that these migratory so-called miners, everywhere striking pyrites, will by and by give up trying to make people believe in their capacity, which never exceeds the handling of a pan. If the pan shows gold, then the ore is a gold ore; if not, it is not.

The "bonders," a certain class of industrial knights, having secured bonds upon mining properties, mostly without any financial backing, without names, without knowing anything but the talk of the country people, are still at work offering mines at absurdly high and absurdly low prices, and if one happens to talk with one of these fellows, his mines are the best ones in the United States, or will be.

I hear but little of sales. Some mines have been opened under bonds. In one the superintendent, manager, day boss, underground boss, engineer and miner is one single negro woman, old, ugly, stupid, who goes out with a basket and pricks ore up with a light pickaxe. It is said to be rich, but how she gets the gold out is unknown to me, whether by boiling or frying or another patent process.

Another mine has been opened by two "mining experts" of some social pretensions without any schooling and not even Colorado experience. The first thing they struck was a "horse" or a dyke, which has cut the ore off or something to that effect.

Another was opened a year ago by another "expert," who sent a carload or two of ore to Newark which was said to assay about \$80, \$120 and even \$150 per ton, and he never uttered a word about the results. The same mine was opened by two colored gentlemen without any means, one a harmless and innocent foreman in a factory; the other a "miner" of a not very trust-inspiring character, who made the first one believe that the possession of a gold mine is all a man needs for his happiness; he goes out one day, scratches with his finger-nails some handfuls of gold out of the earth and then goes home and enjoys life and sends other people out to scratch for him; the main thing is only the start. Well, some two months of experience, during which they did what they could for destroying the small credit they had, left them scratching, not gold, but their ears. It is not easy to predict what the end will be; the most probable is that they are swallowed up by some shark. The mine is not bad, but treated in an indescribable manner by the first "bonder" as badly as by the negroes.

Financial people in the North enjoy the hot season in coal places, and are not accessible. The fertilizer trade is very quiet, and in consequence the sulphuric acid question which made some stir in the spring went to sleep. Pyrites mines have been bonded, and little work has been done. One pyrites mine is going, backed by capital, but under the superintendence of a carpenter. There is only one gold pyrites mine developing, which might have a bright future if they had some better advice than they enjoy.

The state of things in general is as disheartening as possible. Prospecting is done, not much, but something, and it is highly amusing to see how everybody offers his mine for sale without paying attention to the fact that there are no buyers, and that an undeveloped mine is about as salable as skates in Cuba or an ice box in Greenland.

In many cases the liberty of the sellers to call something a gold mine demands admiration, and their opinions of their mine being the richest one in the world is not far from exaggeration if it is backed by a single hole in the ground 4 by 4 by 4 feet, which has opened a vein of six to eight inches wide, assaying three to four dollars to the ton.

I do not see how an improvement can be expected unless some mines are started, and even then I hope nothing from the enterprise of the people of the country. I give it up. The enterprise must come from outside. There are some mines in Boston hands mere objects of speculation; the proprietors never or rarely come; they send sometimes some hundreds of dollars, run the pumps for a few months under the superintendence of a professional tailor or shoemaker, then stop again and offer for sale, and find, curiously enough, buyers, which makes me believe that these Boston people consider mining here as a kind of gambling and nothing else, in which a good bluff is as legitimate as a lie.

The results are, according to these proceedings, perfectly logical, and never will be any different as long as the representatives of the mining industry are "busted" steamboat engineers, silversmiths, tailors, etc., whose power consists in their tongue. And the proprietors, like the Bourbons, have not learned anything, and have not forgotten anything, and will not, so far as I can see. They are boasting about their progress in industry, and leave one of the most important ones laying aside. The first thing they ought to see now, after very many costly experiences, is that they are not able to do mining with carpenters or shoemakers, because none of them had any success. I feel myself that this is not perfect logic, but it is practical, and may be fit for their understanding.

Cost of Mining Hard Rock Phosphate.

The figures of cost of mining hard rock phosphate which Dr. Francis Wyatt gives in his well-known work, "The Phosphates of America," are questioned by a correspondent of the *Times-Democrat*, of Bronson, Fla., who signs himself "C. P. T." and writes as follows:

"This work ('Phosphates of America') will be, and is, no doubt, accepted by the general public as the best authority we have in regard to the working and manipulating the different grades of phosphate found in this State. He gives the manner of prospecting, the different forms of deposits, the manner of working, the cost, etc. Now, if Mr. Wyatt is right in his calculations, we in the hard rock district are going to get badly left at the present prices of phosphate rock; that is, \$6 per ton f. o. b. He says on page 74, speaking of river pebble:

The total cost of raising, washing, drying, screening and loading on cars in execution of orders, is variously estimated at from fifty cents to \$2 per ton, but from special information recently afforded to us by one of the largest operators, we are enabled to place it at \$1.40, and this, to the best of our knowledge and belief, is the lowest yet recorded in the world's history of phosphate mining.

"And on page 78, in speaking of the hard rock phosphate, he says:

The cost of producing one ton of clean phosphate rock under the conditions as shown by our practical working experience averages about \$5 per ton.

"The conditions spoken of, as I understand them, is to crush the rock into pieces of about one and a-half inches in size, so as to be enabled to dry it more readily and to eliminate the sand and clay held in the interstices of the rock, which carry a large part of the alumina and iron generally found in the phosphate rock. On page 59 he says (in speaking of the Charleston rock):

The cost of producing one ton of river rock in marketable condition was placed by the governor in his message at \$4.25 per ton, including \$1 royalty paid to the State.

"He also speaks of the commission appointed by the legislature of South Carolina to investigate the matter, and states that they agree with the governor in his estimate as to cost; but he does not state that the commission, in speaking of the Florida phosphate, says 'that the Florida deposits are much more extensive, nearer the surface, contain a larger per cent. of phosphate of lime and are easier worked,' which, in my opinion, would make the cost of working something below his figures. Now let us take his figures and see what the cost would be, mining it as we do in this country:

Mining at fifteen feet depth per ton.....	\$1.00
Washing.....	.30
Loading on cars.....	.60
Drying and handling.....	.50
Interest on capital.....	.15
Superintendence.....	.20

Making a total f. o. b. of..... \$2.75

"This at present prices would make a good business, and in my opinion is nearer the actual cost than his estimate. To those owning, working or selling phosphate lands, or contemplating mining, it is of vital importance to know exactly the cost of producing rock in proper condition for shipment, and if Professor Wyatt has made a mistake in his estimate it ought to be known to the public, as his work has been distributed all over the United States, or at least amongst those who have been interested in the phosphate industry, and I know by letters I have received, have done serious injury to the business.

"I should like, Mr. Editor, to hear the views of the different phosphate workers in this country in regard to the matter.

"We, at Bronson, are situated in the centre of immense phosphate deposits, both of land, pebble and hard rock, and as many of us have our money invested, would like to know whether it has been properly placed, and which is the best manner of realizing on our investment."

ELECTRICITY.

Long Distance Transmission
Plant at Macon, Ga.[W. Furlow Holt in *Electrical World*.]

Macon, Ga., is a town of some 40,000 inhabitants, with twenty-eight miles of electric street-car lines and one electric-light plant. The street-car lines and lighting plant are owned by four different corporations, which combined furnish about 1,000 electrical horse power, all of which is generated by four separate steam

of 300 horse-power each. These motors in turn will run continuous current generators to generate power for the street railways and for motor and arc light circuits throughout the city. One hundred horse-power will be used directly for incandescent lighting. Each circuit from generating to distributing station will be a complete metallic circuit. Oil insulators will be used and lightning arresters will be placed every mile on the line and will form a ground with a plate placed in the river which the line follows.

The estimated loss is about 31 per cent.,



PATTEE'S LAMP-HOUR RECORDER.

plants. Only continuous current systems are used.

Now, flowing by this town is the Ocmulgee river, which has a capacity of about 113 horse-power to every foot of fall. Where the river passes the town it is a sluggish stream, only having a fall of some six inches to the mile. Eight miles north of the town, however, there are rapids where, for a distance of some five miles, the river has a fall of eight feet to the mile, and is subject to a rise in extreme high water of some 22½ feet.

It is proposed to put a dam eighteen feet high across the river at a point nine miles distant from the town, and to cut a canal or race one mile long of sufficient capacity to carry all of the water in the river. During the low-water stage this will give a head of about twenty-six feet and a capacity of about 2,600 horse-power. It is also proposed to build the inside bank of the canal next to the river some distance above high-water mark, so that when there is a rise in the river it can be utilized at the turbines and will overcome the increased resistance from the tail-water pressure; or, in other words, when there is four feet of water flowing over the dam there will be four feet more water in the canal for use at the turbines. At the low-water stage five turbines will give 1,500 horse-power under a 26-foot head. These same wheels only give 700 horse-power under a 9 foot head, which will be the head available during the high stage of water. But there will be twice as great a volume of water, and eleven wheels can be run, which will give the same power.

The turbines will make ninety-one revolutions per minute during the low water period, but will not make more than eighty when the water is high. To overcome this variation in speed it is proposed to use on the main and countershaft pulleys of three different diameters, which may be cut in or out as the stage of the water may require, and which will give the dynamos run from countershaft about the same speed under all conditions of water.

The dynamos are to be of the alternating type, and of sufficient capacity to generate 1,350 horse-power. Current is to be conveyed a distance of eight miles, where it will run three alternating motors

8 per cent. between the turbines and generators, and a loss of 23 per cent. in line, motors, etc. This will give available in Macon about 1,000 horse-power. On this basis there can be sold from 1,200 horse-power to 1,500 horse-power, as it is not possible that every motor and light will run at the same time. In some cases plants that only have a showing of 600 horse-power at the generating station sell and receive pay for 1,000 horse-power.

I have noticed in recent issues of the *Electrical World* some very interesting articles in reference to public roads and electricity, the use of electric power for farm purposes and for railways. The plant which I have briefly described will be excellently situated for experiments of this nature. The line will for a distance of eight miles run parallel to a river, a railroad and a public road or highway, besides passing very near to large tracts of tillable land.

Pattee's Lamp-Hour Recorder.

In running isolated electric-light plants it very often happens that a few lights could be furnished to a neighbor and thereby reduce the running expenses of the plant if it were possible to properly adjust the amount to charge for the time the lamps are burning. An instrument to do this has lately been placed on the market by George Cutter, of Chicago. It is called the Pattee's lamp-hour recorder, and has been introduced into a number of isolated and central station plants during the past year. It is being used with good results on both arc and incandescent circuits, and has been found especially adapted for use with series or series multiple incandescents.

Most stations will prefer this device to either time circuits or time cutouts, as it gives the consumer a chance to burn his lamp early on a dark day and late in the evening on special occasions. It can also be used in place of a meter for working on a steady load, special windings being used for each case.

THE Taylor Electric Light & Power Co., of Taylor, Texas, contemplates installing a motor circuit next spring if a sufficient number of subscribers can be obtained.

A New Diamond Drill.

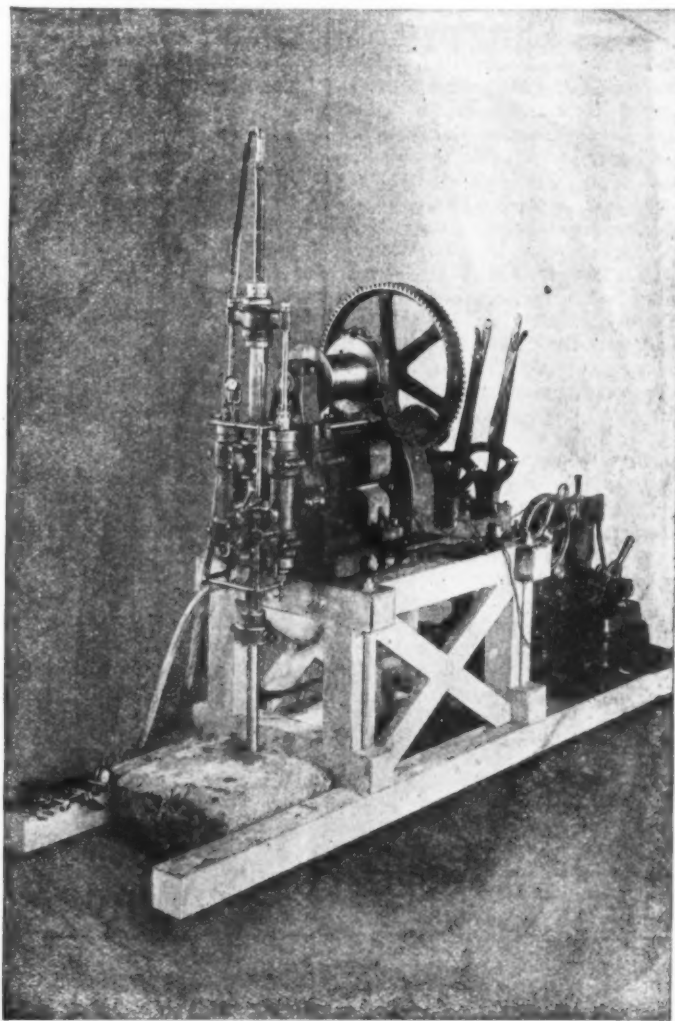
The application of electricity in mining operations has caused in recent years the evolution of many new and perfected pieces of apparatus. One of the most important of these, the drill, has formed the subject of long and special attention on the part of electricians and mining engineers for a considerable time past, on account of its almost universal use in the mining industry. None of the designs, however, has hitherto fully responded to the demands of the miner. The General Electric Co. has just perfected a new diamond drilling machine, for which is claimed a superiority over any others yet devised. The novelty of its construction should recommend it to the attention of mining superintendents and engineers intent on operating their mines with greatest considerations of economy and facility.

The drilling apparatus is shown in the illustration mounted upon a heavy timber frame. Behind this is the electric pump, supplying water to the drill and having a capacity of about 700 gallons per hour against a pressure of 150 pounds to the square inch. It also supplies water to the hydraulic cylinders of the drill, as well as the drill rod. Valves are set in the pipes leading to the pressure cylinder, so that any desired pressure may be put upon the drill bit. A valve also controls the supply of water to the drill rod, the pump being

is geared to the armature of the motor, and the machine is ready, with the aid of a block and fall, to hoist out its own drill rods.

In the experiments which were made with one of these drills at the factory the drill, under a pressure of 120 pounds per square inch on the pistons of the pressure cylinders, bored through twelve inches of solid blue granite in three minutes; under a pressure of seventy-five pounds the drill cut through twelve inches in six minutes, and at a pressure of thirty five pounds it cut through the same amount in about sixteen minutes. These cutting speeds were made with the drill bit and short barrel coupled directly to the drill head, and will necessarily be slightly diminished when a considerable length of rod has been driven into the rock, but they are sufficiently conclusive to show that the even motion of the electric motor makes it the ideal power for this work. The satisfactory performance of the drill apparatus under the stringency of the different tests to which it was subjected lead us to predict its wide adoption in the mining world.

THE commissioners of Baltimore county, Md., have contracted with the Mt. Washington Electric Light & Power Co. to light the streets of Mt. Washington, Arlington and Govanstown with electric incandescent lamps at the rate of \$25 per lamp per year. Also with the Bayview Electric Light &



A NEW DIAMOND DRILL.

able to supply an ample amount to keep the cutting rim of the bit perfectly free and clean. The drill head is arranged with a heavy hinge, so that, when uncoupled from the drill rod, it may be swung away from the frame and allow room for hoisting the drill rods from the hole. Here also the machine shows its complete fitness for this work, for at the top of the main standards of the iron frame is arranged a small hoisting drum, which, by the simple movement of a lever,

Power Co. to light Canton, Highlandtown, Orangeville and Gardenville at \$23 a lamp. The price to be paid is said to be lower than the oil lamps previously cost the county.

THE Manchester Cotton and Woolen Mills at Fort Worth, Texas, manufacturers of denims, checks, cottonades, gingham, tickings, etc., has just completed a brick addition 40x60 feet for its dye works. The company is also busily engaged in putting considerable new machinery in its plant,

MECHANICAL.

Notes on Machine Shop Practice.

By Albert D. Pentz.

I LIKE to see a machinist who is versatile and who has confidence in himself, but I know of one who has a lot of wheels in his tool-chest belonging to his \$50 watch. He tried to mend it and failed in the reassembling of it. He also sacrificed his right thumb a few months ago in convincing the pattern-maker that he was an expert with a band saw.

WATCH the boy who came from a farm to the machine shop. If he tries to rig up for a job without asking how to do it, let him alone. It is possible that inasmuch as he don't know the wrong way to do it, that he may stumble upon a good method. Many an invention is made by those who do not know the usual way, who have been badgered when they have sought for routine knowledge until they are obliged to study the problems out for themselves. If something cannot be found out, in your own line, from every greenhorn boy you take from the country, then that country has such a good soil that it has required no brains to cultivate it profitably.

THE writer was called to a shop recently to consult about punching some nuts through machinery steel with round holes about half the diameter of the thickness of the metal. Now I do not like to punch any piece of iron or steel that is thicker than the punch is, and of course I said no. This operation of punching metal two thicknesses of the diameter of the punch can be done fairly, however, if the punch is round and made of good steel, but it cannot be done under the same conditions that a sheet metal blank is plumped out. As a rule sheet steel is punched at too high a speed. I mean that the punch goes through the metal too rapidly, not that too many pieces are made in a given time. A punch that is one-quarter inch in diameter should not be forced through machinery steel one-quarter inch thick in less than one second, or about fifteen strokes of the press per minute. This is but one-tenth of the cutting speed of a slow planer. With this same punch through thicker steel I would increase the time as the cube of the thickness to be punched. Thus, through steel one-half inch thick the quarter-inch punch should consume eight seconds of time at least; a punch one half inch in diameter should consume at least two seconds in its passage through one half inch stock, etc. In all cases where the punches are broken by excessive duty a gain in efficiency will follow a slower movement, everything else being equal.

SOME large foundry patterns made by a coppersmith were shown me. The question to be settled by them is whether to retain pine wood, which was light enough, but neither kept its shape nor lasted well, or to make castings that would weigh two or three tons each and require new wooden patterns to allow for the extra shrinkage, as well as to "cost like sin to smooth them," or to try this experiment. It is a crooked affair, but the coppersmith made it in sections from stock one-eighth of an inch thick. The sections are "carvel jointed," that is, they are riveted to an internal metallic strip so as to hold them together and be flush outside. The surfaces are just as left by the smith's hammer and come out of the sand very freely. The weight is rather less than pine wood. There is no possibility of rust and the expectancy is of great service. They are interesting patterns.

ANY person who desires to experiment should first begin to study. There is no gain in getting quickly about a thing which

the experimenter does not comprehend. In the construction of an elaborate machine, recently examined, the maker, to save an expensive forging, had riveted two pieces of steel together. These pieces of steel were not hard and the rivets were of soft iron. These, however, soon sheared off, and they have since been replaced many times, each time entailing the stoppage more than two hours of an expensive and useful machine. Lately the foreman, to help matters, tried to use tool steel rivets just soft enough to be upset by a hammer, but no softer. Now, while the ends of these harder rivets could be spread over without much trouble, it was found impossible to fasten the two pieces tightly together by them. After all this time had been lost and the expense of the hard rivets had been made, those who had to do with the job saw that elasticity was the trouble. The rivets would not set, but would compress under the hammer and rebound back when free. This job was finally repaired with taper bolts and nuts, counterbored flush because there is no room for heads outside. If this workman had questioned "Is there any objection to an elastic rivet?" he would have seen it at once. But no, it was a hurried job and there was no time to study. There was time found to be wasted, however. The original blunder of making the pieces from two parts to save expense cannot be harshly dealt with, because there is always so much pressure brought to bear on a tool builder to produce cheaply, that the temptation to substitute one construction that looks feasible for another more expensive is always very great, and succeeds often enough to chance it.

THE success of one mechanic began in a very simple thing. Twenty-five years ago in a certain great factory difficulty was found in milling wide surfaces by one long cutter as smoothly as they were required to be. The usual spiral mill did not give satisfactory results, although every practical degree of spiral was tried. Then a gang made from a number of narrow cutters was tried, and this helped, but there was too great difficulty in keeping them to the same size in grinding. This gang of many narrow cutters gave a young mechanic an idea. He made a spiral mill like those at first used, and then he cut a screw-thread space into it which crossed the spiral at right angles. The space was, perhaps, one eighth inch wide and was cut by a square-nosed tool on an engine lathe. The pitch was about two to the inch. This cutter gave the desired results. I believe it was patented, but of course it is now public property. Afterward this "indexing," as it was called, was done by saws for the purpose of eliminating the spiral effect due to the screw, one corner of which dragged when the feed was fast. This kind of cutter has been used continually in that one factory, but I do not find it to be well known elsewhere. From the recognition received through this improvement this mechanic has grown step by step to the top.

IN a tap having a V-thread, that part of the thread left entire after grooving should be about double the pitch in width—that is, if the pitch is ten threads to the inch, the rib of metal between the grooves into which the teeth are cut should be about two-tenths of an inch wide. The cutting face on this rib of thread-teeth should be a radial plane, but such only as deep as the bottom of the spaces between the threads. Below these spaces the grooves should be filleted round and made no deeper beneath the spaces than about one-half the pitch. In the ten threads pitch the radial depth of the groove from the top of the thread should be no more than .15 inch, and that at but one point quite near the cutting edges of the teeth. After grooving and before hardening the tap should be run

through a burring die which is solid and has no other grooves than four narrow saw cuts. After hardening and before tempering the grooves should be ground out by a very small fine emery wheel that fits the shape.

WHY is it that a gang of men, all of whom have harmoniously worked along together at the same pay, are set by the ears when one of their number is advanced to a higher rate of wages? It would seem to be wisdom for each of the others to congratulate themselves and their shopmate on his fortune instead of ostracising themselves on the higher reward possible to be achieved, and the successful one on his having demonstrated its possibility. As workmen learn to think straight and to act true to their own interests, their horizon will widen.

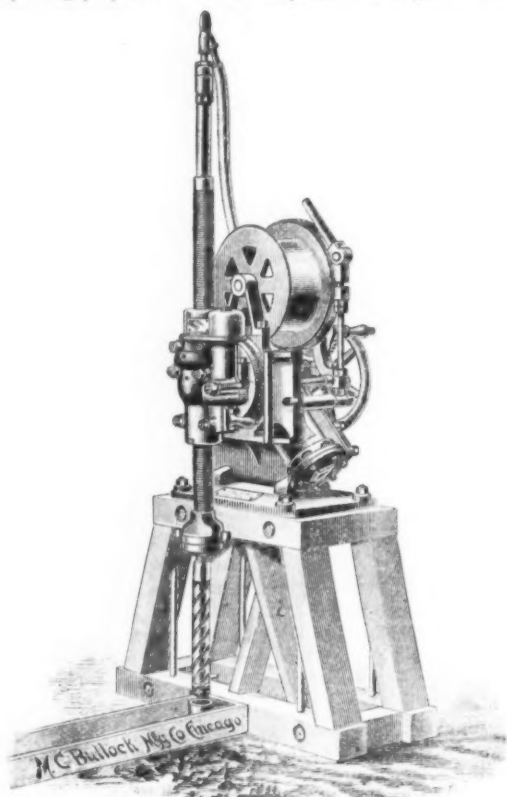
The Bullock Diamond Drills.

One of the greatest improvements which has been made in saving labor as well as in reducing the expense involved in prospecting and developing mines has been the invention and development of diamond drills for prospecting purposes. The in-

different points and depths, thus proving the character and thickness of veins or deposits. Many of our successful mines use these machines constantly, drilling ahead and testing the ground in advance of all workings, thus obtaining, first, absolutely correct knowledge of where to drift or sink to obtain the largest ore bodies; second, the record of the drill hole and cores by which the manager is enabled to estimate and let contracts for the work on a fair basis for both men and management.

For prospecting, the diamond drill stands without a peer, for by its use straight, round, smooth holes can be bored in any direction, of any desired size. It is also very efficient for boring oil and artesian wells, for boring holes to connect different levels in mines for the purpose of ventilation, for soundings and for submarine blasting. This drill could also be of untold benefit in making rapid borings for the purpose of furnishing air and food to imprisoned miners in cases like the Mine Hill disaster.

The use of these drills has given a great impetus to mining in all its branches, and



THE M. C. BULLOCK "BEAUTY" DIAMOND DRILL.

telligent use of these machines for this purpose has worked a revolution in exploring, so that a mine can now be prospected at from one fifth to one-tenth the cost required by the slow, old fashioned methods, while a still greater economy is attained by doing the same work in one fifteenth or one-twentieth of the time formerly consumed by the old plan. This saving of time is of the greatest importance in this age of electricity and lightning trains, for it permits the explorer or mine superintendent to obtain as much direct and positive information in a few months and at a small cost as could be obtained in the work of as many years by the old methods, and the diamond drill is the only appliance that has yet been discovered for doing rapid, cheap and reliable prospecting.

A hole bored by a diamond drill with an accurate "log" kept of all cores and cuttings, showing the kinds of materials passed through and the exact thickness of each vein or measure, gives as perfect a record of the formations as though a tunnel or shaft had been driven at many times the cost of the boring in both money and time.

Large tracts of land can be cheaply and rapidly explored by boring a few holes at

great credit is due to the M. C. Bullock Manufacturing Co., of Chicago, for the many valuable improvements which they have introduced in this class of machinery. Mr. Bullock was the pioneer in the diamond drill business and made the first notable success in using them, and the latest improved machines now offered by this company are the outcome of over twenty years of his practical experience in building and operating these drills in every part of the world, and in drilling successfully through every known formation. During this time they have achieved a world-wide reputation for compactness, portability, neatness in design, fine workmanship and durability, combined with great speed and economy of operation.

We take pleasure in presenting to our readers cuts and brief descriptions of several new types of prospecting drills which have never before been illustrated.

The Beauty drill has been especially designed for prospecting in advance tunnels, headings or similar cramped positions in underground mining—a class of work which requires a light, compact, convenient, and yet powerful machine—one that can readily be moved about and used in various

parts of a mine, drilling holes at any required angle, from vertical to horizontal, rapidly and cheaply. This little machine fills the above requirements in every particular, and has been used with the most flattering success in boring through the ex-

out rattle or jar or lost motion. All bearings are carefully fitted with bronze liners, while the frame and all the lighter castings about the machine are made of cast steel. This machine is built to jigs and templates, and all parts are made in dupli-

ing him to avoid forcing the diamonds beyond their cutting capacity.

The general outline of this type of machine is so well known that it is unnecessary to give an exhaustive technical description of its mechanism.

The essential functions of a diamond drill are as follows:

First—To drill long straight holes at any angle and to any diameter or depth required.

Second—To furnish as a record a cylindrical core showing an exact cross section of all substances cut by the bore hole which are hard enough to form a core.

Third—To make a positive feeding mechanism and yet have it so sensitive that any change in the formation is indicated to the operator the instant the bit encounters it.

Fourth—To show the distance from the surface of the ground of any change of formation, the points of contact of the different strata and their exact thickness.

Fifth—To indicate the relative hardness of one measure and another.

Sixth—To indicate the location and depth of seams, cavities and openings.

Seventh—To enable the operator to find the angle or dip of the measure to the angle of the hole, and the strike of the dip to the meridian.

Eighth—To preserve the core and diamonds from any sudden shock or jar by maintaining a uniform advance of the drill, the speed being regulated by the hardness of the rock.

Besides doing all this, the drill, engine and total outfit should be so constructed as to be operated rapidly, safely, accurately and economically. The Champion drill fully meets every one of the above requirements.

This machine is fitted with the patent thrust register, which is of the greatest value where accurate results are required, and constantly shows changes in the hardness of the rock, condition of the bit and thickness of each stratum or width of seams while the drill is running at full speed.

The Champion has met with the most unqualified approval of the best mining men in the country, for it not only bores

patterns of its standard drills, which can be seen in its salesroom, corner of Canal and Washington streets, Chicago, where it carries in stock ready for prompt delivery drills capable of boring from 200 to 5,000 feet in depth.

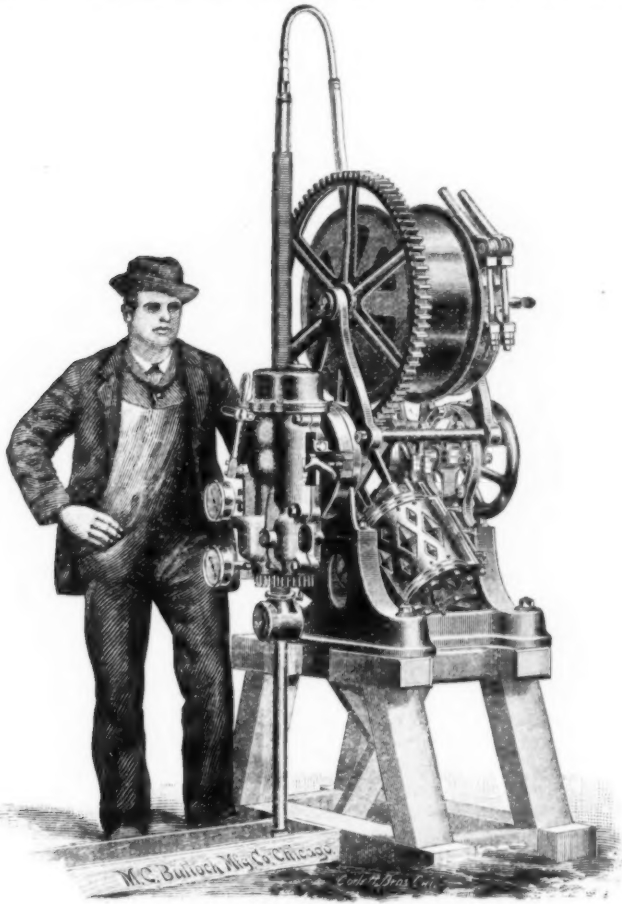
Automatic Band Friction Hoist

The hoisting engine shown in the accompanying illustration is built by the Moore County Machine & Iron Co., of Dover, N. J.

The double engine is substantially built upon one bed and is of remarkably fine workmanship. The links, pins and rods are of steel, and are accurately fitted and well finished. It has balanced valves and link reverse gear of the best type. The two engines being placed together as shown have advantages over those which are widely separated (one on either side of the drum), principally because all the working parts are brought within easy view of the engineer, thus avoiding any excuse for neglect. Being upon a separate bed from that which supports the drums, the engine is not subjected to the irregular strains and shocks which sometimes occur in hoisting.

The cut shows the drum provided with a band friction and brake. Band frictions are now recognized as superior to all other designs for heavy continuous work. This one is of novel construction, and will easily hold any load within the capacity of the machine. By a peculiar system of auxiliary friction clutch arrangement the machine itself is made to do the work of locking the band friction. The operator has merely to throw forward the small lever (which is easily done by one hand) and the engine does the rest. There is no "run and jump" work on a shifting lever, nor arm wrenching work of "winding up" a brake wheel; the work is done by merely outstretching the arms, and as quickly as desired. The load is started without shock and may be slowed down at any point.

This same design of hoist is made also with double drums for balanced cage work, the drums placed side by side or in tandem. They are also made without the friction, if required, and in several sizes. The prices are moderate and work first-class.



THE M. C. BULLOCK "CHAMPION" DIAMOND DRILL.

tremely hard measures found in the iron, copper and silver mines of the Lake Superior region.

The Beauty is adapted to boring holes one and seven-sixteenths inches in diameter, taking out a core five sixteenths of an inch in diameter to a depth of 700 feet. Its total weight is a trifle under 450 pounds and it can readily be divided into packages of 150 pounds each for pack-mule transportation, while it occupies off its columns a space only twenty inches square.

When used for prospecting inside of mines the Beauty is mounted on columns, making it a most convenient arrangement for rapid and successful explorations in tracing ore bodies, for the cores not only show their exact location, dip and extent, but also afford correct cross sections of the measures (for assays) by which the value of the minerals can be determined.

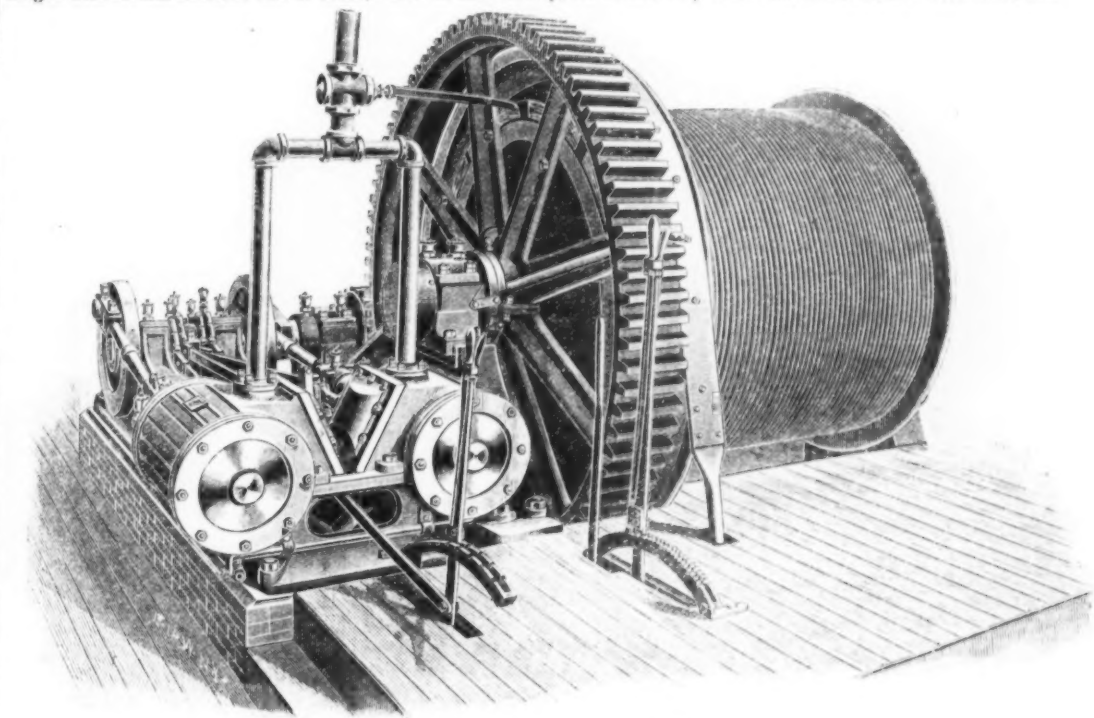
For surface prospecting the Beauty is mounted on a bed-plate with a compound-gear hoisting drum for hoisting and lowering the rods. It is also arranged with columns and reel on a bed-plate and hoist rig interchangeable, so that it may be used either upon the surface or underground in the mines. The Beauty is guaranteed to be first class in every respect, and is claimed by the makers to be the best diamond drill for the class of work named above that has ever been placed on the market.

The Champion drill presented herewith is built from a new design covering a complete remodeling of the old Little Champion drill, which has justly earned such a world-wide reputation among mining men for its unrivaled durability, the great speed obtained in boring and the marvelous accuracy of the work done.

This machine is thoroughly well built in every particular. The bevel and feed gears are all cut out of solid cast steel and arranged to run at the highest speed with-

cate, so that in case of an accident or break-down any part may be ordered by letter or wire with an absolute certainty of its fitting the machine on reaching its destination.

The machine as shown in the cut is arranged with several different sets of feeds,



AUTOMATIC BAND FRICTION HOIST.

which can be changed instantly while the drill is running by moving a lever and the detent, thus permitting the operator to change the advance of the bit to adapt it to the character of the rock, permitting him to run at maximum speed under all circumstances, and at the same time allow-

rapidly and cheaply, but gives the most accurate results, making, when properly handled, all the way from 500 to 800 feet of hole per month at a trifling expense compared with the old methods of prospecting.

The M. C. Bullock Manufacturing Co. also manufactures a large number of other

PARTIES interested in the Beaver Creek Railroad, a lumber road which runs a few miles out from Davis, W. Va., have opened a mine in the Davis seam about four miles from Davis. The working is thus far experimental, but as a good quality of coal is found the seam will be mined for shipment.

IRON MARKETS.

Philadelphia.

[From our own Correspondent.]

PHILADELPHIA, August 24.

There has been no important change in the general condition of the iron market. The demand for all kinds of finished iron and steel continues large, and, although there has been no material increase in the requests for crude material, conditions are favorable for an improvement in this branch of trade during the closing months of the year. The producers of well-known brands are making no special efforts to force iron upon buyers, who are following a policy of restricting their purchases to actual requirements. Both buyers and sellers are pursuing a waiting policy, expecting that the next few weeks will cause the market to assume a more settled condition, so that some estimate may be made of the future course of trade. While the products of the leading furnaces are held at firm prices, with a disposition to make short-time contracts, the forced sales of Southern brands at prices that leave little if any margin for the maker tend to keep values at the present low level. Were it not for this ruinous competition the heavy consumption of pig iron and the lessened production would be important factors in the course of the market during the early fall months. While forge grades are in large supply, following the long idleness of many of the principal rolling mills, some of the favorite brands of foundry iron are not as plentiful as they were a few weeks back. There is, however, no scarcity of good iron, but it is a significant fact that some furnaces are well sold up in certain lines. With the exception of a few thousand tons of Southern forge grades sold in Harrisburg and vicinity at prices that net the furnaces not much in excess of \$8 a ton at works, the transactions of the week have been made in this market at the following quotations:

Standard Pa. No. 1 X.....	\$15 00@15 50
" No. 2 X.....	14 00@14 50
" Forge.....	13 00@13 50
Southern Coke, No. 1 foundry.....	14 25@15 00
" No. 2.....	13 50@14 00
" Gray Forge.....	12 50@13 25

Pittsburg.

[From our own Correspondent.]

PITTSBURG, August 24.

Not a move has been made that could be turned to account in the iron and steel trades, particularly as affecting raw material. Pig iron remains in the same hopeless, helpless condition that it has known for several months past, and all the anticipations expressed have gone astray in effect. Furnaces are being blown out, there are no transactions being made, and the only reason why prices are not lower is because they are down as far as they can get. The compulsory shutting down of blast furnaces, however, indicates that the men who have been holding up, hoping against hope, have reached their limit. They state now that it is impossible for them to hold out against circumstances any longer. Thus suspension of operations cannot have any effect now, though, as the stocks on hand are of enormous size and will be sufficient to supply greater demands than will be made upon them.

The settling of the iron and steel scales and the resumption in part of the local mills has not had the beneficial effect that was expected, and while their operation will produce a limited demand, the big trade naturally looked for from the railroads will not come, or at least there are no signs of it yet. It was from this source that the pig iron producers held up for good business, but the railroad improvements have been as nothing compared to the anticipations.

The prices of pig iron have not been changed in any way; in fact, there are no reasons for a change so long as there are no demands and no sales. The only pig

that is being used is a little forge and mill iron and the every-day quantity of foundry iron. For Bessemer private terms for cash are being made as low as \$13 80 to \$13 90, but furnacemen state in conversation that no one will take less than \$14.00. The quotations for cash are:

Gray Forge.....	\$12 50@12 60
Mill Iron.....	12 75@13 00
Foundry No. 1.....	14 30@14 60
" No. 2.....	13 30@13 60
Bessemer.....	14 00@

Wheeling.

[From our own Correspondent.]

WHEELING, W. VA., August 24.

There are few things that tend to show improvement in the pig-iron market in the Wheeling district this week. The demand for mill irons still continues fair, or a little better, but it is conceded that the demand will not last in its present state of activity for a great while unless there is something more than the spurt that arises from the starting up of the finishing mills. There has got to be a reduction in the production or a great increase in the consuming capacity of all lines, or the prices will tend still lower than now. One Bessemer furnace has been closed in the district, but for how long is hard to determine. The furnace of the Bellaire Nail Works was banked last week, but at that time the steel works and nail factory of the same concern were closed, and had been for two months on account of labor trouble. Since the banking of the furnace the labor difficulties have been arranged, and there will likely be a sufficient demand for Bessemer pig in those departments to make the starting of the furnace necessary again. The company, like all the other producers of pig iron, has a big lot of iron lying in the yards.

In general there has been but little change in the pig-iron situation. The depression that has been the marking feature of the market for so many months still remains in a very unsatisfactory degree. Sales have been fair all along the line the past week, but there is so much talk of concessions below the prices quoted (and which are surely low enough) that it is extremely hard to decide that there is anything to be pleased with. Some foundry iron has been sold, and although the stories are not generally believed, some dealers assert that they are getting more than the prices quoted last week. The demand for mill iron has not fallen off perceptibly, and is still good. About 3,000 tons of sales have been reported this week.

Prices are quoted as follows:

Gray Forge.....	\$12 25@13 00
No. 1 Foundry.....	14 50@15 00
No. 2 Foundry.....	13 50@14 00
Bessemer.....	13 75@14 00

Cincinnati.

CINCINNATI, August 20.

There is nothing good to be said of the market in any particular, unless it be larger inquiries and larger sales at lower prices. The tonnage of sales so far this month has been exceptionally large—very much in excess of the corresponding month of last year. There is every indication that consumption in general is well maintained. At the same time various influences combine to keep the market weak and unsatisfactory. Prices are now so low that it is safe to predict a steady and even rapid reduction in output from this time on until the turn is reached. When such turn will come the wisest prophets will not venture to predict, but that it will be a sharp one and will be sustained for many months at least no well-informed observer doubts.

Charcoal irons have been heavily reduced in output and also in stocks. There is no present improvement, however, in prices. The present rate of production of coke iron is the lowest since June, 1891. Next month will show a still greater reduction.

The resumption of activity among the rolling mills has increased the demand for

gray forge iron, and some large transactions are reported. The convict labor troubles in Tennessee have resulted in the blowing out of the furnace at Cowan and the banking of one or more stacks at St. Pittsburg. Several furnaces in the Alabama district will go out for repairs in the next few weeks, and will not likely resume on the present market.

We quote for cash f. o. b. cars Cincinnati:

Southern coke No. 1 foundry.....	\$13 25@13 75
Southern coke No. 2 foundry and No. 1 soft.....	12 25@12 75
Hanging Rock coke No. 1.....	15 50@16 00
Hanging Rock charcoal No. 1.....	19 00@20 00
Tennessee charcoal No. 1.....	16 00@16 50
Jackson Co. stone coal No. 1.....	16 00@16 50
Southern coke, gray forge.....	11 25@11 75
Southern coke, mottled.....	10 75@11 50
Standard Alabama C. W.....	18 00@19 00
Tennessee C. W.....	17 00@17 50
Lake Superior C. W.....	17 50@18 00

ROGERS, BROWN & CO.

St. Louis.

ST. LOUIS, August 20.

There is little of interest to report in regard to the St. Louis market during the past week. Everyone has ceased to make any predictions in regard to an improvement in the market.

Sales here during the past week have been very light, and indications do not point to any activity in the way of buying in the near future.

We quote for cash f. o. b. cars St. Louis:

Southern Coke No. 1.....	\$13 75@14 25
" No. 2.....	12 75@13 25
" No. 3.....	12 50@12 75
" Gray Forge.....	11 75@12 00
" Charcoal No. 1.....	15 50@16 00
" No. 2.....	15 00@15 50
Missouri Charcoal No. 1.....	14 50@15 00
" No. 2.....	14 00@14 50
Ohio Softeners.....	16 50@17 00
Lake Superior Car Wheel.....	17 50@18 25
Southern.....	18 25@19 75
Frick's Connellsville Foundry Coke.....	5 65

ROGERS, BROWN & MEACHAM.

Buffalo.

BUFFALO, August 20.

The market continues quiet, with a fair volume of business doing and prices still depressed.

Manufacturers express themselves very much discouraged over the widespread industrial disturbances, which have the effect of preventing the start of new enterprises and of curtailing consumption in the smallest established lines.

Under the influences of very low prices Southern iron has been selling more freely. Lake Superior charcoal and Ohio Softeners are in light demand.

We quote on the cash basis f. o. b. cars Buffalo:

No. 1 X Fdy., Strong, Coke Iron, Lake Superior ore.....	@15 25
No. 2 X Fdy., Strong, Coke Iron, Lake Superior ore.....	@14 25
Ohio Strong Softener No. 1.....	@15 25
Jackson County Silvery No. 1.....	@17 30
Lake Superior Charcoal.....	@16 50
Tennessee Charcoal.....	@17 00
Southern Soft No. 1.....	@14 15
Alabama Car Wheel.....	@19 00
Hanging Rock Charcoal.....	@20 50

ROGERS, BROWN & CO.

Louisville.

LOUISVILLE, August 20.

A very quiet market has prevailed during the past week, with no indication for any early improvement in prices. It is conceded that any general active buying movement would bring about enhanced prices. It is also undoubtedly true that an advance, well founded, would create an active buying movement, but the query is how can this be brought about. The trade has been accustomed for so long a time to make each purchase lower than the one previous, that they hesitate lest they might lose a bargain; consequently, in place of the consuming trade carrying a portion of the surplus stocks, as they did formerly, they now buy from hand to mouth and let the producers carry the burden. This can and will, of course, right itself in course of time, but meantime prices will drag.

HOT BLAST FOUNDRY IRONS.

Southern Coke.....	\$13 00@13 50
" No. 2.....	12 25@12 50
" No. 3.....	11 75@12 00
" Charcoal, No. 1.....	16 00@17 00
" No. 2.....	15 00@15 50

FORGE IRONS.

Neutral Coke.....	\$11 50@12 02
Cold Short.....	11 25@11 50
Mottled.....	10 75@11 02

CAR WHEEL AND MALLEABLE IRONS.	
Southern (standard brands).....	\$20 00@21 00
" (other brands).....	18 50@19 50
Lake Superior.....	19 50@20 50

HALL BROS. & CO.

Southern Iron Notes.

THE Ashland (Ky.) Coal & Iron Co. has completed overhauling its No. 1 furnace and made extensive improvements, and intends putting it in blast at once.

THE Richmond Standard Spike & Iron Co.'s rolling mill at Iron Gate, Va., has resumed operations.

THE Addyston Pipe & Steel Co. has shut down its foundry at Newport, Ky. Operations are to be resumed late in the fall.

THE Birmingham (Ala.) Rolling Mills have signed the Amalgamated scale and will at once resume operations.

IT is reported that the Roanoke (Va.) Rolling Mill Co. will soon put its West End mill in operation.

Irrigation in Florida.

The following practical suggestions as to irrigation are offered by L. D. Jackson in the *Florida Agriculturalist*:

"Last year I put in a plant, consisting of a pump and engine, pipes and hose. I have not yet experimented with filling the ditches with power, but shall do so next season. In the meantime, I have been distributing water over the surface through pipes and hose. I have 1,400 feet of pipe with hydrants attached every 200 feet. With 100 feet of hose I can water 150 feet on each side of the pipe its entire length, extending also 150 feet beyond its limit. By putting in laterals, extending the pipe or coupling on more hose, I can water more territory. This is the simplest and cheapest plan I know of for surface irrigation. It is not the best nor the most satisfactory, but so far as I know it is the cheapest.

"I get my force direct from the pump and apply the water through 1 1/2-inch hose with 3/8-inch nozzle attached. This gives a spraying stream fifty feet or more, according to pressure. My pump will thoroughly wet about one acre in ten hours—this for garden stuff; for trees, twice to six times as much space may be covered, according to size of the trees. The capacity of the pump is 100 gallons per minute. It takes one man to the hose and one to fire up.

"I tried running water through furrows, but found it slow work. The water was all the time stopping, disappearing in holes, and was so altogether slow and poky that I concluded I would either have to put in a forty horse-power engine and pump or spend my whole time in irrigating. In fact, I found it took about four times as much water to wet a given territory, and then it was soaked in some places and not wet in others. So I fell back on the spraying outfit.

"I think the same objection may be found to the California man's shoots or troughs, or the canvas hose of Chandler. You may convey water in them better to any given point, but it will always soak too much in places. This may do for trees, especially large trees, as their roots would soon drink or pump the ground dry again.

"But an overdose of water is not the right thing for either the soil or the plant, as it packs the soil and excludes atmospheric influences. Especially is this true of Florida sand. The flooding process, if kept up long enough to wet the whole soil evenly, will pack our sand to the almost total exclusion of atmospheric influences for several days.

"Don't think that irrigation without fertilizers and thorough culture will greatly increase your crop.

"Don't think that if a moderate dose is good, a great deal is better.

"Don't forget that water in abundance shuts off atmospheric influences.

"Work thoroughly after each soaking.

"Attend to above and irrigate, and you will get there, whatever method is used."

LUMBER MARKETS.

New York.

OFFICE OF MANUFACTURERS' RECORD,
No. 126 Liberty Street,
NEW YORK, August 24.

These are dreadful times; there are spots on the sun and all the world is turbulent. No sooner do we get a strike settled in one quarter than another one is started in some other place, and so business is kept in suspense, not daring to spring into very great activity because of labor conditions. Notwithstanding the present difficulties, however, we think we may report an improvement in this market. While it may not be very pronounced, yet we are convinced it is but a forerunner of better times to come.

There is a little more activity in the yellow pine trade, and the improved conditions which we are all so anxiously looking for are nearer than they have been.

Your correspondent has recently had a talk with Mr. H. H. Tift, the president of the Georgia association. From this conversation we are convinced that the mill men of Georgia are on the right tack; that they have started an organization which is bound to do great good, but we question if they will be in shape to accomplish much immediately. There are kickers in Georgia. There are men who can make more money when the mills are losing money than they can when the mills are making money; they are in no hurry for prices to advance or conditions to improve; but this ought to be an incentive to the great majority to make their organization all the stronger, and we are sure that this will ultimately be the result. Prices must advance. The mills of Georgia must get more nearly the prices which their lumber is worth, or a good many of them will have to go out of business. Our present quotations are as nearly right as they can be made.

Building orders, 12 in. and under... \$19 50@20 00
" 14 in. and up... 20 00@21 00
Yard orders, random... 17 00@18 00
Ship stock, 4 ft. average... 22 00@23 00
Heart face siding, 1 and 1 1/2 in... 18 00@19 00
1-inch wide boards... 22 00@23 00
1/2 and 3/4-inch wide boards... 23 00@24 00
Kiln-dried sap swing... 15 00@16 00
Rift-sawn flooring, rough cargo lot... 36 00@38 00
" tongue and grooved, in carload lots... 40 00@42 00

There is a continual inquiry for cypress. Business is looking up in this direction. One yard after another is putting it in stock, until in two years, we think, it will be generally kept by all.

North Carolina pine remains without change. We understand that the North Carolina pine people are going to make quite a spread at the coming Columbian Exposition, and this, we think, will do them much good. We don't know that lumbermen are any slower than other people, but they are very apt to get into a rut. They are also inclined to see what is going on, and this will carry most of them to Chicago. If we mistake not there will be many a kink straightened out next year. People are going to see what many have never seen before, and they will get their eyes opened wider than they were before, and this will help North Carolina pine.

SOUTHERN HARDWOODS.

The hardwood market shows no great improvement. There is a scarcity of poplar, yet prices do not advance. The reason for this may be as much the fault of the shippers as anyone, for it seems to us that with the scarcity of pine which is already apparent a little concerted action on the part of the manufacturers would put poplar up to a reasonable figure. To-day good firsts and seconds poplar sell in this market for \$30.00 a thousand, while the same grades of white pine would bring \$45.00 to \$50.00. Now, even admitting that white pine is a better wood than poplar, there is certainly not room for such a discrepancy as this. We are in hopes the hardwood manufacturers who recently met in a con-

vention will find a way out and get higher prices.

The quartered oak market remains without change. There is some very handsome oak coming into this market from away down in Arkansas. It is quite novel in color, and is attracting considerable attention. There has long been a tendency of some wholesalers who make a specialty of Indiana oak to run down the Southern article, but they are at last one by one being forced to the belief that Southern oak has great merit and that it is bound to be a more important factor in the markets of the North than ever before. This is not only true of quartered oak, but the same may be said of plain oak. Quotations remain about as follows:

1x6 inch and up... \$49 00@50 00
Thicker... 50 00@53 00
Common... 35 00@38 00

There is very little call for common and none to speak of for culls. Plain oak is also slow of sale.

1x8 inch and up... \$35 00@36 00
1 1/2 and 1 3/4 inch and up... 36 00@38 00
2 inch... 37 00@39 00
Export oak... 32 00@34 00

Ash continues in demand. Good stock sells readily.

1 inch... \$35 00@37 00
1/2, 3/4 and 1 inch... 37 00@40 00
2 1/2, 3 and 4 inch... 38 00@41 00
Common... 22 00@24 00
Balusters... 22 00@26 00

We have heretofore mentioned the growing popularity of elm. This popularity is due to the fact that it can be made a substitute for a much more expensive wood, that is, oak. We do not consider the intrinsic value of elm anywhere near to that of oak, but if a good chamber suit costs \$20.00 to make and you have people looking around to buy one at \$15.00, there is only one thing to do—to make it out of elm, and this is what is being done in a very large number of cases.

We are having a delightful ending to a most disagreeable summer, and we confidently expect business to pick up from this on. We trust our future letters may have more in them of encouragement for the shipper.

Baltimore.

OFFICE MANUFACTURERS' RECORD,
BALTIMORE, August 25.

During the past week the local lumber and timber market has been fairly active and irregular, and the volume of trade about an average for this period of the season. The stock on hand is very liberal, and nearly all the yards have an accumulation of certain dimensions, owing to the late depression caused by the strike. There is a fair demand, but receipts continue free and prices are consequently easy and in some cases lower, commission men in many cases making concessions in order to effect sales. There is, however, a good business doing in Virginia and North Carolina pine, and receipts are fully equal to a moderate demand. Cypress is in demand, with prices steady for the best grades. In hardwoods there is some business doing, but the bulk of operations are confined to special lots of desirable wood. There is a good inquiry for box material, and manufacturers are generally well supplied with orders. All the planing mills report business as fairly active, and orders are plenty, most of the mills working up to their full capacity. The shingle market continues very strong, and prices for certain grades are tending higher on account of the sharp demand and great reduction in stocks. Laths are quiet and nominally steady, with a liberal supply and moderate inquiry. The following table represents the prices current at this date:

VIRGINIA AND NORTH CAROLINA PINE.
5-4x10 and 12 No. 2, kiln dried... \$6 50@6 75
4-4x10 and 12 No. 1... 19 50@20 00
4-4 narrow edge, No. 1, kiln dried... 16 75@17 00
4-4 wide... 18 00@19 00
6-4x8-10 and 12, No. 1, kiln dried... 22 25@22 75
4-4 No. 1 edge flooring air dried... 15 00@15 50
4-4 No. 2 edge flooring... 12 50@13 00
4-4 No. 1 12-inch stock... 16 50@17 75
4-4 No. 2 12-inch stock... 13 75@14 25
4-4 edge box or rough wide... 9 75@10 25
4-4 edge box or rough (ordinary widths)... 8 00@9 00

4-4 edge box or rough (narrow)... \$8 25@8 75
4-4x12 edge box or rough... 10 00@10 50
3/4 narrow edge... 7 00@8 00
3/4 all widths... 8 00@9 00
3/4 10x16 wide... 9 00@10 00
Small joists, 2 1/2-12, 14 and 16 long... 8 50@9 50
Large joists, 3-16 long and up... 9 00@10 00
Scantling, 2x3-16... 9 00@9 50
" 2x4-16, 18 and 20... 9 00@9 50
" 6-4x12-16... 10 00@10 50
" 8-4x12-16... 10 00@10 50
" 6-4x10-16... 9 00@9 50
" 8-4x10-16... 9 00@9 50

SOUTHERN PINE.

Siding and edge boards... \$14 00@14 75
Heart face boards... 22 00@23 00

WHITE PINE.

1st and 2d clear, 4-4... \$48 50@51 50
" 5-4, 6-4 and 8-4... 48 50@51 50
3d clear, 4-4, 5-4, 6-4 and 8-4... 43 00@44 00
Good edge culls... 14 50@15 50
Good stock... 16 00@17 00

White pine, No. 1, 4-foot headed pickets... 13 50@14 50
4-4 selected edge... 39 00@43 50
6-4x4 selected edge, box out... 39 00@40 00

CYPRESS.

4-4x6, 16 feet, clear... \$22 00@23 00
4-4x6, 16 feet, fencing... 12 00@13 00
4-4 rough edge... 9 00@9 50
4-4 edge, Nos. 1 and 2... 18 00@21 00

HARDWOODS.

Walnut... \$75 00@100 00
4-4, Nos. 1 and 2... 90 00@100 00
5-4, 6-4 and 8-4... 95 00@110 00
Nos. 2 1/2, 3 and 4... 125 00@135 00
Newell stuff, clear of heart... 125 00@135 00
Culls... 30 00@35 00

Oak.

Cabinet, white and red, plain sawed and good 1 and 2, 8 in. and up, 12 to 16 feet long, 4-4... \$35 00@40 00
5-4 to 8-4... 35 00@40 00
Quartered white, 1 and 2 quality, all figured, 6 in. and up wide, 4-4... 50 00@52 50
Culls... 10 00@15 00

Poplar.

Nos. 1 and 2, 3/4... \$21 00@23 00
4-4... 24 00@26 00
Nos. 5, 6 and 8-4... 27 00@30 00

In yellow pine cargoes, log run stock... 12 00@16 00
Culls... 12 00@14 00

SHINGLES.

Cypress, No. 1 hearts, sawed, 6x20... \$7 75@8 00
No. 1 saps, sawed, 6x20... 5 75@6 75
No. 1 hearts, shaved, 6x20... 6 75@7 00
No. 1 saps, shaved, 6x20... 5 25@5 50

White pine... \$2 80@3 85
Spruce... 2 40@2 45
Cypress... 2 10@2 15

Norfolk.

[From our own Correspondent.]

NORFOLK, VA., August 24.

The activity previously reported throughout the lumber section of Virginia has not diminished during the past week, and at both local and adjacent points there is a good volume of business reported. The present situation as viewed by local operators is one of great promise, and the business of this year is expected to exceed in volume that of any previous one in the history of the lumber trade. Under a very high temperature the demand is very active, and the heat, although intense, has not lessened the output. Values for Virginia and North Carolina kiln-dried yellow pine continue very firm, under a spirited inquiry. Air-dried lumber is also in better demand, especially for flooring boards. There is a good supply of box boards on hand, with only a moderate demand. In dressed lumber manufacturers report a fairly active business, with a corresponding improvement in values. Cypress lumber is in good request, and prices firm. There is a good supply of logs, and all mills are running at their full capacity. There is a good demand for shingles, with the supply limited, and prices very firm for certain grades. The following table represents the prices current at this date.

Kiln-dried North Carolina pine lumber f. o. b. at this port is quoted as follows:

5-4 rift No. 1... \$27 50@28 00
5-4 rift No. 2... 16 00@16 50
5-4x10 No. 1... 19 00@19 50
5-4x12 No. 1... 19 00@19 50
5-4x10 No. 2... 15 00@15 50
5-4x12 No. 2... 15 00@15 50
5-4 edge No. 1... 17 00@17 50
5-4 edge No. 2... 13 50@14 00
4-4 rift No. 1... 25 00@25 50
4-4 rift No. 2... 15 00@15 50
4-4x10 No. 1... 18 00@18 50
4-4x12 No. 1... 18 00@18 50
4-4x10 No. 2... 15 00@15 50
4-4x12 No. 2... 15 00@15 50
4-4 edge No. 3... 9 50@10 00
4-4 edge No. 4... 10 50@11 00
4-4x8, 10 and 12 culls or box... 8 50@10 00
4-4x5-4 edge, culls or box... 8 00@8 50

VIRGINIA PINE.

4-4 flooring boards (dry and clear)... \$13 50@14 50
4-4 flooring boards (rough)... 7 75@8 75

SHINGLES.

No. 1 hearts, split, car lots... \$6 50@7 00
No. 2 hearts, split, car lots... 5 50@6 00
No. 1 saps, split, car lots... 4 50@5 25
No. 2 saps, split, car lots... 4 00@4 75
No. 1 sawed hearts, car lots... 6 50@7 00
No. 2 sawed hearts, car lots... 5 00@5 50

WOOD.

Hard, per cord... \$2 75@3 00
Pine, per cord... 2 75@3 00

STAVES.

Red oak hoghead, prime... \$36 00@37 00
Red oak hoghead, culls... 22 00@23 00

White oak hoghead, prime... 55 00@57 00
White oak hoghead, culls... 30 00@33 00
White oak heading, prime... 55 00@56 00
White oak heading, culls... 28 00@29 00

Charleston.

[From our own Correspondent.]

CHARLESTON, S. C., August 23.

In point of activity the lumber market here is at a low ebb, and the volume of business for the week just ended is very moderate. The shipments have been principally to the West Indies. There is also some inquiry from South America, with prospects better for a good demand in the near future from that section. Advances from the interior report the mills all very busy filling orders for prompt delivery and have work for two months to come. The continuous rains which have prevailed lately has retarded operations in milling circles, and with the present temperature and more settled weather active operations will begin. There is a fair demand for all good manufactured stock, and prices are steady, with a fair supply. The list of quotations are not materially changed from last week, and merchantable is \$14.00 to \$16.00 for city sawed and \$12.00 to \$14.00 for railroad. Square and round timber is quoted \$9.00 to \$13.00 for railroad and \$8.00 to \$11.00 for raft. Dock timber is held at \$4.50 to \$6.50 and shipping at \$8.50 to \$10.50. Shingles are steady at \$5.00 to \$7.00 per thousand. Freights on lumber and cross-ties are firm at unchanged rates.

EXPORTS OF LUMBER FROM CHARLESTON FROM SEPTEMBER 1, 1891, TO AUGUST 19, 1892.

Exported to	1891-'92. Feet.	1890-'91. Feet.
New York...	31,309,747	23,941,951
Boston...	251,000	251,000
Philadelphia...	7,362,000	5,521,000
Baltimore...	2,548,978	2,260,900
Other United States ports...	4,618,000	7,583,311
Total coastwise...	45,738,734	39,558,222
Great Britain...
Palermo...
France...
West Indies...	2,177,300	5,129,195
South America...	177,000	540,410
Nova Scotia...
Other foreign ports...	578,174	...
Total foreign...	2,932,474	5,669,605
Grand total...	48,671,208	45,227,827

Savannah.

[From our own Correspondent.]

SAVANNAH, GA., August 23.

The past week in lumber and timber circles has been moderately active, and orders are reported more numerous, with prices, however, still very low. The South American trade is improving, and, as noted in last week's letter, there is still a fair inquiry from that section, and several vessels are reported to load about the first of September. The exports of lumber for the week were 1,240,288 feet and 85,000 shingles. A deal of attention is now being paid to the harbor improvements, and lumbermen are anxiously looking forward to the commencement of a work which will increase their trade, and with twenty-six feet of water vessels of the largest tonnage can load with lumber. As mentioned in previous reports of the lumber market at this port, there is a radical change taking place both here and throughout the State. Mills of small capacity are leaving the field to large operators, cases being reported of plants that have been transferred to other points, and it is only a question of time when the lumber business will be in the hands of large operators and under one organization. Reports from the interior are more satisfactory, and throughout the milling section there is a fairly active movement. Many improvements are in progress, and among the most prominent may be mentioned the following: The firm composed of the Emersons and the Hamilton Lumber Co., of Baltimore, Md., have rented the planing mill of the Parrott Lumber Co. at Richmond, R. G. Borden, of Fernandina, Fla., has purchased an interest in the saw mill of R. J. Griffin & Co., of Lemox, Ga., and will add

and improve capacity by new machinery; the Ariba Lumber Co., of Ariba, Ga., has put in a logging tram, a shoe engine and trucks. In the list of values there is no improvement, and an easy feeling throughout the market prevails. Firsts and seconds dry-kiln boards are quoted at \$11.00 to \$14.00, as to size; standards \$9.00 to \$12.00, and flooring \$8.00 to \$12.00 per thousand feet. In lumber freights the market is dull, the offering of tonnage being liberal at the moment. Sail rates from this and nearby Georgia ports are quoted at \$4.25 to \$5.00 for a range including Baltimore and Portland, Me. Steamers to New York are had at \$7.00, to Philadelphia and Boston \$8.00, and Baltimore \$6.50.

Mobile.

[From our own Correspondent.]

MOBILE, ALA., August 23.

There is every reason to expect a more active market in lumber and timber at this port, and all indications point to a better volume of trade during the remaining months of the current year. At present there is no movement of importance expected, as with August ends the lumber year's business, and operators are closing up and preparing for the new season. Prices for hewn timber are steady and unchanged at 11 to 12½ cents per cubic foot. There is an improvement reported in prices on the other side of the water, and quite a good trade with British ports is expected. Already some large shipments have been made, notably among the number being by the steamship Kara, which cleared for London during the week with 1,495,753 feet of sawn timber and 73,809 feet of deals, a total cargo of 1,569,562 superficial feet of timber. This shipment places Mobile among the largest timber loading ports on the Gulf. The total shipments of lumber for the week were 268,439 feet, and of sawn timber 126,241 cubic feet. During the past week there has been a very active business at Pensacola and other points on the bay. The exports of lumber and timber from Pensacola, Fla., to foreign countries for the week were 9,940,780 superficial feet, valued at \$86,114. Coastwise shipments were 697,400 feet. Several steamships are now on berth and others arriving daily. The business of the current year has been very large, and some of the largest cargoes ever shipped have left Pensacola in 1892. Notably among the number were the following: Steamship City of Wakefield cleared in May last for U. K. ports with a cargo of lumber and timber aggregating 2,082,470 superficial feet, and on the 8th of the current month the steamship Blue Cross cleared with a cargo aggregating 1,959,210 feet. These large shipments place Pensacola in the lead, giving her twenty-two feet ten inches on the bar.

Memphis.

[From our own Correspondent.]

MEMPHIS, TENN., August 23.

All the favorable conditions of a week ago continue, with perhaps a little additional improvement caused by the lowering of freight rates. The labor troubles, strikes, etc., do not seem as yet to have affected this market or lessened orders. The South has never had any general strike, nor has there been any anywhere where negro labor was employed. The colored workman has various bad qualities, but strikes and striking or mixing in labor troubles is no part of them.

All the mills throughout this section are doing well, most of them running full time and at remunerative prices. The only new enterprise that I know of hereabouts is that of A. P. Taylor, formerly of Taylor, Strange & McClellan, heavy hardwood shippers, who, in connection with Mr. D. M. Russell, has formed a partnership as Taylor & Russell and have built a mill of 25,000 actual working feet daily capacity, a circular saw mill at Matagorda, Miss., on

the line of the Louisville, New Orleans & Texas road. They will cut cypress, oak and ash. Mr. Russell owns large tracts of timbered lands in the delta, for the putting into market of which this mill is built. His cypress brake is estimated by careful lumbermen to contain at least 12,000,000 feet of merchantable lumber, and besides this he has a goodly body of ash and oak, and there is more of the same easy of access to the mill.

There are several large tracts of timber land in the delta and in other easily reached portions of Mississippi being placed on the market, and there are numerous people looking for just such chances. A leading Memphis lumberman has been spending several weeks in Minnesota forming a syndicate to buy a tract of something over 100,000 acres, and writes that he will bring the parties (and their money) here next week.

The State Grange, at its annual meeting last week, directed its executive committee to take steps toward securing options on large tracts of farming lands at low rates and on favorable terms, and cutting them up into small farms for the purpose of inducing German or other good farming people to come here, and these folks, if they come, will be good customers of our lumber dealers; therefore, we are willing to help too.

There is a greater variety of available timber tributary to this market than to any other inland market in the country. We have regularly, in greater or less quantities, fourteen different kinds of lumber—ash, cedar, cottonwood, cypress, elm, gum, hickory, red oak, white oak, long-leaf pine, short-leaf pine, poplar, sycamore, walnut—and there are in abundance in the forests, ready for use when called for, those beautiful Southern woods, beech, holly, maple, persimmon and sassafras. Of these which are quoted regularly on our price-lists, ash is in good supply and abundant demand, except for dry, of which there is none; prices firm and likely to rise. Cottonwood—the demand rapidly increasing, as this is the only wood that can take the place of the rapidly disappearing poplar. The supply is exhaustless, especially as its reproduction is the most rapid of any of the hardwoods. Prices are firm, and will be steadily maintained. Cypress is rapidly increasing in popularity as it becomes better known. For years past it has been but little used excepting for tanks, pump stock and for local purposes; now it is being called for for all outside uses, being more lasting for shingles than cedar, for siding than white pine. The supply is fully equal to any possible demand. Red gum is one of our most beautiful and most durable woods, the only trouble being that it will warp. It cannot be dried by any of the hot air, steam or other artificial drying processes, but must be dried on sticks for twelve to fourteen months in the open air. For railroad ties and similar heavy work it has no superior, and will hold nails better than any known timber. There is abundance of it. Oak is unnecessary to particularize; it is as staple as flour, and the supply and demand well balanced. At present it is being badly butchered for staves and ties. Poplar and walnut are very fast becoming a thing of the past, and must ere long be dropped from our market quotations. Poplar when once cut never reproduces itself; once gone it is gone for always. Pine is in abundant supply for the present generation at least. Prices are totally demoralized by the action of the country mills, and seem likely to continue so. The other woods mentioned are incidentally on our market to be procured as ordered, but in abundance if desired.

There are as yet no quotable changes in prices:

BLACK WALNUT.	
1st and 2d, 1, 1½ and 2 inch.....	\$65 00@70 00
Common.....	35 50@40 00

Counter tops.....	90 00@110 00
1st and 2d clear, 1 to 4-inch.....	24 00@30 00
Common.....	12 00@14 00
CYPRESS.	
1-inch, 1st and 2d clear.....	22 00@24 00
1½, 1½ and 2-inch.....	24 00@26 00
Fencing 1x6, 16 feet.....	15 00@16 00
POPLAR.	
1-inch, 1st and 2d clear.....	24 00@25 00
1½ and 2-inch, 1st and 2d clear.....	26 00@28 00
Common boards.....	14 00@16 00
Dressed, 1, 1½ & 2-in., 1st & 2d clear.....	28 00@30 00
Common dressed, 1-inch.....	16 00@17 50
Squares.....	22 50@26 00
COTTONWOOD.	
1 to 3-inch mill run, culls out.....	9 00@12 00
Squares.....	12 50@16 00
RED GUM.	
1st and 2d.....	16 00@20 00
Common and culls.....	8 00@10 00
OAK.	
1 to 4-inch, 1st and 2d.....	24 00@26 00
Common, 1 and 2-inch.....	13 00@15 00
Quarter oak, 1-inch, 1st and 2d.....	30 00@32 00
Quarter oak, 1½-inch and up.....	34 00@36 00
White \$1 higher.....	
YELLOW PINE.	
1st and 2d, 1½ and 2-inch.....	18 00@20 00
Dressed.....	25 00@30 00
Flooring, 5 and 6 d and m.....	17 50@
Flooring, 3 and 4 d and m.....	17 50@20 00
2d flooring.....	15 00@17 50
Heart step lumber.....	27 50@
Ceiling, 1st and 2d, ¾, ¾ and ¾.....	17 50@20 00
Ceiling, 1st and 2d, ¾ and ¾.....	16 00@
Common \$1, b. Memphis.....	
Car lots.....	12 50@
TIMBER (LOGS).	
Poplar.....	6 00@10 00
Cypress.....	6 00@9 00
Cottonwood.....	3 00@4 00
Gum.....	3 00@4 50
Oak.....	6 00@12 00
Ash.....	8 00@13 00
Black walnut.....	15 00@50 00
SHINGLES.	
No. 1 heart cypress, 16 inch.....	3 00@
No. 1 sap, 16 inch.....	2 25@
LATH.	
Poplar.....	2 00@2 75
Cypress.....	—@2 50
Pine.....	—@2 00

Beaumont, Texas.

BEAUMONT, TEXAS, August 22.

Notwithstanding the political excitement of the past week the attention of lumberman has not been directly diverted from the trade. The activity previously noted in Southeastern Texas is becoming more decided, and the business of the week throughout the milling section has been larger than usual. In local circles business has been somewhat quiet, but orders continue to come in and receive prompt attention. Stocks in nearly all the mill yards, both at this point and at Orange and Westlake and Lake Charles, La., are considerably reduced, while prices throughout the list continue to hold firm. The Beaumont Journal, in its review of the lumber market, says: "Trade circles have been rather quiet during the week, owing to the excitement incident to the two State conventions, and the lumber trade has sympathized with other lines in doing only a moderate share of business. There are some dealers in the State, however, who remained at home and attended to business, as evidenced by the number of orders received, and it may be assumed that after quiet is restored and the people return to their every-day affairs, the activity of the past two weeks will reassert itself. Stocks at mill yards are not by any means abundant, while at retail points they are at the minimum, and anything like a brisk demand from customers would cause retailers to send in rush orders, with the probability of being disappointed in securing prompt shipments because of light stocks." A prominent feature in trade is the active demand for shingles, and from the present outlook there is no chance of any accumulation of stock, as orders are from thirty to sixty days ahead of shipments. There is a good demand from railroads for timber and ties, and in the territory adjoining the milling districts railroad building is being extensively carried on. The ties and timber already under contract will keep the mills of Southeastern Texas and Western Louisiana busy for several months to come. Under these conditions the market may be considered in good shape, and for the next year to come it is likely that there will be no accumulation of yard stocks, which will have a tendency to advance prices. The Litcher & Moore Lumber Co., of Orange, Texas, is loading a number of barges with lumber and timber for Boston. This company has also secured an order from I. B. Moss, of St. Joseph, Mo., for sixty cars of lumber. The first delivery of lumber by

the Reliance Lumber Co., of Beaumont, to be used in the construction of extensions of the M. K. & T. R. R., has already been made, and the full delivery under the contract with the Southwestern Construction Co. will be made by November 1st. The Hooks Lumber Co., on the S. & E. T. R. R., with their usual enterprise, have nearly finished their tram-road, which is to reach their pine timber lands.

Lumber Receipts at Norfolk, Va.

The receipts of lumber and timber at the port of Norfolk, Va., show remarkable monthly increase in volume, and while far in advance of the corresponding period last year, are in some cases insufficient to supply the immediate demand. Samuel P. Borum, secretary of the Norfolk Chamber of Commerce, furnishes the following table of receipts of lumber and timber for the month of July, and for the seven months ending July 31, 1892:

	July.	Seven months.
Lumber, feet.....	29,016,350	160,561,598
Logs, feet.....	7,336,475	58,477,432
Staves.....	528,100	4,292,388
Shingles.....	7,818,826	25,528,546
Railroad ties.....	24,960	115,640

COTTON MARKET.

NEW ORLEANS, LA., August 22.

Editor Manufacturers' Record:

The past week has brought an improvement in the market up to the closing of to-day of seventeen points, the causes of which are partly due to natural reaction, but mainly attributable to light receipts at ports, indicating a moderate movement in September. Liverpool improved likewise from the same causes, but the difficulty in the way of improvement in the cotton manufacturing districts of Great Britain is largely owing to the decline in silver, and on this subject we cannot do better than quote from a letter of a most conservative and prominent man in the cotton trade who has been on the other side all summer. He says: "I take a rather despondent view of the market this season, as unless things change very differently, the marketing of lines of cotton will not be the same as heretofore." He further says: "I present these facts for consideration, inasmuch as I found business on the Continent simply wretched. Nothing doing whatever in new crop deliveries and very little on the spot. Trade is so bad spinners take no interest in the value of cotton, but are simply using up their supply, and when they need anything they can buy in Havre or Bremen, as the latter market has 400,000 bales of cotton which has to be sold to Continental spinners." Again he says: "On my arrival at Liverpool I find a still more wretched state of affairs. The talk in Lancashire is of a most depressing character, brought round by the depressed state of Eastern exchange or silver, and the quantity of cotton goods in the market, and I do not look for any improvement in Liverpool until trade changes, which change can only be brought about by a financial crisis in Eastern business."

The world's visible supply of American, reported in the weekly statement last Saturday, shows that while it was 2,313,442 on the 13th inst., it was 2,250,000 on the 20th inst., showing a decrease as compared to the previous Saturday of 63,000 bales, but still leaving an increase over last year of 980,000. This decrease of American supply, as compared with previous weeks of this season, will perhaps be quite marked for the next thirty to sixty days. How far this may affect prices and create a more bullish feeling will depend more, as our correspondent says, upon trade in Lancashire and on the Continent than anything else except very unfavorable crop accounts.

ATWOOD VIOLETT & CO.

CLOSING PRICES OF FUTURES AUGUST 24.

Months.	New Orleans.	New York.	Liverpool.
August.....	6.80@	6.99@	3 57 64
September.....	6.68@	6.98@	3 57 64
October.....	6.76@	7.10@	3 59 64
November.....	6.85@	7.20@	3 61 64
December.....	6.94@	7.31@	4
January.....	7.03@	7.40@	4 1 64
February.....	7.12@	7.49@	4 4 64
March.....	7.21@	7.58@	4 6 64
April.....	7.30@	7.68@	@
May.....	@	@	@
June.....	@	@	@
July.....	@	@	@
Tone of the market.....	Quiet and Steady.	Quiet.	Steady.

CLOSING PRICES OF SPOT COTTON AUGUST 24.

Grade.	New Orleans.	New York.	Liverpool.
Middling.....	7	7 1/2	4
Low middling.....	6 1/2	6 11-16	3 3/4
Good ordinary.....	6	6	3 9-16
Tone of market.....	Steady.	Dull and Weak.	Dull.

Southern Textile Notes.

THE Chester (S. C.) Manufacturing Co., manufacturers of fine gingham, intends to light its mill by electricity, and to that end has let contract to the D. A. Tompkins Co., of Charlotte, N. C., for the installation of a 100-light plant.

THE Algernon Mills, of Augusta, Ga., have stopped indefinitely. Mr. Stewart Phinizy, president of the company, writes that no conclusion has been arrived at as to what will be done with the mills.

It is reported that the Kilburn Knitting Machine Co., of New Brunswick, N. J., will remove its knitting mill to Martinsburg, W. Va. The plant is to employ 400 people.

WORK on the buildings for the Erwin Cotton Mill at Durham, N. C., is progressing rapidly, seventy-five men being employed on them at present. The main structure will be 347x75 feet.

CONTRACTS have been let by the Coosa Manufacturing Co., of Piedmont, Ala., for the additional machinery which it is to put in its mill. The Fales & Jenks Machinery Co., of Pawtucket, R. I., will furnish the spinning and twisting machinery; Messrs. Riley & Co., of Boston, Mass., the cards and roving frames; the Potter & Atherton Machine Co., of Pawtucket, R. I., the spreader, and the Lowell (Mass.) Machine Shop, the railway heads.

THE Capital Manufacturing Co., of Columbia, S. C., has obtained a three years' lease of the property upon which it is now erecting its cotton mill.

WORK has been begun on the construction of the Atherton Cotton Mills at Charlotte, N. C. The mill is designed for 10,000 spindles, and will commence operations with 5,000. The product will be fine yarns, and the plant is expected to be in operation by February 1, 1893. The officers of the company are: D. A. Tompkins, president; R. M. Miller, Jr., vice-president and treasurer, and J. P. Wilson, secretary.

TRADE NOTES.

THE Atlanta (Ga.) branch of the Graves Elevator Works, of Rochester, N. Y., has contract for putting in an hydraulic passenger elevator and pumping system for the Chamber of Commerce in that city.

THE Vulcan Iron Works Co., of Toledo, Ohio, has just shipped a "Little Giant" steam shovel to Montana for irrigating ditch work. These shovels are peculiarly adapted for work of this character, and the makers have booked several new orders.

PEPPER & REGISTER, electrical and mechanical engineers, Philadelphia, have secured the contract to build the Easton, South Easton & Phillipsburg Electric Railway, now consolidated and called the Easton Transit Co. Work will begin not later than September 10, and the road is to be completed by Thanksgiving Day.

THE Chandler & Taylor Co., of Indianapolis, Ind., shipped last week a complete saw mill to go to Siberia by way of San Francisco and Japan. This seems to give a general indication of the preference of the Russian consumer for American goods, owing to the generosity of American

merchants and millers at the time of the Russian famine.

THE Cameron & Barkley Co., Charleston, S. C., has just completed the erection of two 100 horse-power boilers and a 20x42 Harris-Corliss engine, with all necessary appurtenances, for the Bamberg Cotton Mills, at Bamberg, S. C. The boilers were made by the Erie City Iron Works, of Erie, Pa. The Cameron & Barkley Co. is the State agent for these boilers and the engines mentioned.

P. DUVINAGE & Co., of Brooklyn, N. Y., advise us that the Duvinage standard anchor plates and post caps, which were illustrated in our issue of August 19, have been applied in Messrs. Thomas & Co.'s seven-story shoe factory in Brooklyn; the Union Oilcloth Works, Elizabeth, N. J., and store and dwelling-house at Van Nest station, N. Y. The Duvinage system has also been specified for a church, a factory and two apartment-houses.

MESSRS. E. & B. HOLMES, of Buffalo, N. Y., manufacturers of woodworking machinery, have lately filled an order for a woodworking plant for the Kenosha Crib Co., and are now filling one for the Northwestern Wire Mattress Co., both of Kenosha, Wis. They are also making a large consignment of barrel machinery to Edwin Plews, of Malaga, Spain. The Messrs. Holmes are about to issue a new catalogue, "C," and the attention of woodworkers is called to it.

F. J. STONE, of Chattanooga, Tenn., Southern agent of the Detroit Electrical Works, is equipping the new building of the Times Publishing Co., in Chattanooga, with two 500 light Detroit incandescent dynamo and two stationary motors of the same make. Mr. Stone has also secured the contract for the additional motor equipment for the Chattanooga Electric Street Railway Co. after a full and thorough practical test of the various railway motors now in the market.

MCLANAHAN & STONE, proprietors of the Gaysport Foundry, Hollidaysburg, Pa., advise us that they are very busy at present on ore and phosphate washing machinery, and have just shipped two of their improved double wood log washers, one to the Standard Phosphate Co., Archer, Fla., and one to the Trenton Phosphate Co., Fort Fanning, Fla. They are now building one of these washers with patent steel logs for the Peninsular Phosphate Co., Albion, Fla.

CROOK, HORNER & Co., of Baltimore, have sold to the Lake Roland Electric Railroad, of Baltimore, two 150 horse-power Ball automatic engines. They have also sold two Ball engines to the Baltimore Sugar Refinery Co. for enlarging their plant, and a 150 horse-power engine of the same make to J. S. Young & Co., of Baltimore. Messrs. Crook, Horner & Co. say "the demands for these engines are constantly growing, and we consider it one of the best accounts for which we are agents."

THE Foss Manufacturing Co., of Springfield, Ohio, has recently sold two of its No. 11 crushers to Armour & Co. for crushing bones in their glue factory at Chicago. This is the result of the purchase of one of these machines several months ago by Armour & Co., who expressed complete satisfaction with it after brief use, saying: "We think if we required it that it would crush fifty tons per day of heads and bones, and we have no hesitation in commending it favorably to all who need such a machine."

A FINE water-power of 470 horse-power near Aiken, S. C., is being offered for sale in conjunction with a property of 2,500 acres of land, containing an abundance of yellow pine timber, a rock quarry and clay beds. The property is especially adapted for the location of a cotton mill or bleachery, being situated directly on a railroad and in a neighborhood where labor, both skilled and unskilled, can be obtained at moderate wages. Full particulars can be obtained from Dr. T. G. Croft, of Aiken.

THE Chattanooga house of E. C. Atkins & Co. has recently equipped the Wyeth City Woodware Co., of Wyeth City, Ala., with saws, belting, pulleys, etc. They have also fitted up Sherman & Brinson's large mill at Augusta, Ga., with belting, pulleys, etc., and have recently furnished a number of very large driving belts, twenty-four inches wide, to the Bewick Lumber Co., Hazlehurst, Ga.; T. W. Carbutt & Co., Spann, Ga.; Central Georgia Land & Lumber Co., Sibley, Ga., and Jesse Thompson & Co., Augusta, Ga.

AMONG the buildings for which the Carolina Brown Stone Co., of Raleigh, N. C., has furnished stone from its quarries at Sanford, in Moore county, are the courthouse in Bristol, Tenn.; the armory building, Savannah, Ga., and Mr. A. Talbot's handsome residence in Richmond, Va. This stone has also been specified for the Durham (N. C.) Bank building and a handsome residence in Louisville, Ky. Some of this stone has also been used in Seima, Ala., and Asheville, N. C. These quarries are operated by a strong company which guarantees to deliver a first-class stone promptly and at a low price.

THE Berlin Iron Bridge Co., of East Berlin, Conn., has the contract for the erection of a bridge across the Connecticut river for the Sheffield & Thompsonville Bridge Co. This bridge will be 1,660 feet long, with five 210 foot spans and a roadway twenty feet wide in the clear. The cost will be \$60,000. The Coe Brass Manufacturing Co., of Thompsonville, Conn., has contract with the same concern for the erection of three fire-proof iron buildings, 32x130 feet, 50x50 feet and 60x160 feet. The Berlin Bridge Co. also has the contract for a brick and iron fire-proof building 74x100 feet for the Edison Electric Illuminating Co., of Brooklyn, N. Y.

DR. A. L. MARCY, president and general manager of the Southern Fire Brick Works, Richmond, Va., writes: "We have demonstrated by actual tests that our brick makes a first-class coke oven brick. I now have a man who will work up trade for us in the Pocahontas region, and we expect to do some business down there, besides making new trade through the South. Considering all things, our trade is extending through the South probably as rapidly as we should expect for a new company, as every furnace wants to test bricks for itself before using them. Most of the iron works here are using our brick to their satisfaction."

CHIEF ENGINEER S. C. MIDLAM, of the Hudson river steamer Albany, in a recent letter to the Forrest Silver Bronze Packing Co., of New York, writes: "I am pleased to state that the silver bronze packing which we have been using on our piston rod (7/8 diameter, 12 ft. stroke,) for the past three years has given good satisfaction. The rod vibrates in the course of its stroke about one-fourth of an inch, and the superiority of your packing over all others on this rod has been due, in my opinion, to the ability of your silver bronze packing to accommodate itself to the vibration referred to above, together with its fine anti-friction qualities, evinced by the splendid conditions of the rod. The packings applied since to auxiliary engines are all tight and doing good work."

THE Smith-Courtney Co., of Richmond, Va., write us as follows: "We have closed order with the W. P. Boshier Lumber Manufacturing & Building Co., of Newport News, Va., for steam power and machinery for the equipment of their planing and lumber mill, including shafting, pulleys, belting, etc. The order embraces the best and most improved machinery for this class of work. We have just closed contract for heating the Murphy Hotel of this city; this plant includes a large sectional boiler for heating by steam, all radiators, etc. When this plant is completed it will be the best equipped and heated in this city. We have also just furnished Messrs. Fuller & Griffith, contractors, with steam drills and boilers for use at their contractors' plant in Pennsylvania."

THE Monroe Manufacturing & Lumber Co., of Lima, Ohio, reports a large trade in interior finish, sliding blinds and screens. This company has just completed fitting up the University of the South, Sewanee, Tenn., with blinds which have given much satisfaction to the purchasers. This company makes a specialty of interior finish in hardwoods, stairwork, mantels, veneered doors and general mill work in this line, carrying a large stock of all kinds of hardwoods thoroughly kiln-dried, thus being able to put out work in good shape. The "Perfection" sliding window screens are just being introduced by this company with very flattering success. They are not carried in stock, but sold only on order. The Hill sliding blind, which has been on the market for several years, is one of the popular specialties made by this company.

PERHAPS the most important electric railway work ever undertaken is that of the Cayadutta Electric Railway, connecting Fonda, Johnston and Gloversville, N. Y., as it will parallel a main road, and electric locomotives will for the first time be in direct competition with steam locomotives. The complete construction has been undertaken by H. Ward Leonard & Co., including grading, road bed, building, steam plant, electric generators, electric overhead work, cars, etc. The road will be in operation about December 1. This important contract forcibly illustrates the desire on the part of owners to deal with one contractor for the entire work, and especially with a contractor who is entirely independent of so-called systems, and hence able to procure for such a plant the best and most recent developments in this rapidly-changing industry.

THE Contractors' Plant Manufacturing Co., of Buffalo, N. Y., has issued the following announcement to consumers of wire rope: "We are now manufacturing a new patent steel and iron wire rope to which we desire to call attention. Its chief advantage lays in the fact that each individual wire composing the rope is so laid as to have an exactly equal tension, and also is so laid as to avoid almost entirely the friction of strand against strand, which causes rope to wear out to a much greater degree than the actual work performed. So confident are the makers that they are particularly desirous to have an opportunity

of trying the particular excellence of this rope in places where other rope wears out rapidly, in which cases they feel confident of giving a service of at least one-half greater than that of any other rope in the market, and particularly desire correspondence in this direction."

ARCHITECT CHARLES H. READ, JR., of Richmond, Va., has now under construction a handsome stone and gray brick fire-proof building, 45x102 feet, for the Planters' National Bank in Richmond, which will be one of the finest buildings of its kind in the South. He has also nearly completed a fine residence for Mr. L. L. Strause, on upper Franklin street, built of buff brick and Portage sandstone with red slate roof. Another in the same block for Mr. Politaux Robinson, in colonial style, is now roofed in. An apartment-house on Third and Franklin streets, for Mr. S. H. Hawes, to be of brown sandstone and gray brick, is just starting. A residence of North Carolina brown sandstone for Mr. Allen Talbot, on Franklin street, is just being started. Mr. Read has also in hand a brick building sixty feet front by 100 feet deep for meetings and educational purposes for the Old Market Mission.

MCCARDLE & SINCLAIR, of New Orleans, advise us that they have sold within the last month five Smith & Vail pumps to the John Reuss Planting Co., one large pump to the Louisiana Electric Light Co. and several smaller pumps for purposes of boiler feeding and fire protection around saw mills. They have also recently sold a large amount of woodworking machinery for J. A. Fay & Co., of Cincinnati, Ohio. An outfit for the Interstate Lumber Co., of Meridian, Miss., included four flooring machines, a 16x20 timber dresser, 30-inch surfacer, moulding machine, resaws and other machinery, making one of the complete planing mill outfits in the South. McCARDLE & Sinclair have also sold a complete planing mill outfit of five machines to W. J. Athens & Co., of New Orleans, and a flooring machine to H. Lienhard, Handsboro, Miss. They report that the general lumber trade in that section appears to be improving, and collections are better than for a year and a-half.

THE D. A. Tompkins Co., Charlotte, N. C., has commenced the erection of a 35-ton oil mill at Rush Point, La., for a local company. It is expected the mill will be finished about the first of November next. The new oil mill at Dallas, Texas, which is being built by the same builders for the Trinity Oil Co., will be ready for operation in a few days. Another mill at Terrell, Texas, will commence operations in about thirty days. Work has been begun on the Atherton Cotton Mills at Charlotte, N. C., by the D. A. Tompkins Co. The mill is designed for 10,000 spindles and will start with 5,000. The D. A. Tompkins Co. has contracted to install a 400-light electric plant in the gingham mill of the Chester Manufacturing Co., Chester, S. C., and the same concern will also equip the cotton mills of the Gaffney Manufacturing Co., Gaffney, S. C., with electric lights. The Westinghouse Electric & Manufacturing Co. will furnish a 1,000-light dynamo to the Huntsville (Ala.) plant.

THE Baldwin Locomotive Works are now delivering to the Baltimore & Ohio Railroad Co. ten high-speed passenger locomotives. Three of these are similar to those already in service on the fast trains between Philadelphia and Washington. They have cylinders 20 by 24 inches, and driving wheels seventy-eight inches in diameter. A compound locomotive of similar dimensions, in service hauling the same trains over the Bound Brook line, between New York and Philadelphia, recently attained a speed of nearly ninety-two miles an hour, as recorded by a stop watch, while faster runs are related by the men in charge of the engine. A similar compound engine, No. 1,510, was also delivered last week to the Pennsylvania Railroad. It too will be tested in high-speed service between New York and Philadelphia. Up to this time 235 compound engines have been delivered from the Baldwin works alone, indicating the remarkable efficiency of this improved system of locomotives.

THE Model Heating Co. is the name of a new company organized to take over and conduct the hot water heating business heretofore carried on by the Abram Cox Stove Co., Philadelphia, and the Hogan Boiler Co., New York. Its officers include Abram C. Mott, Philadelphia, president; Joseph M. Stoughton, New York, secretary, and John J. Hogan, New York, consulting engineer. The Model Heating Co. will market the Novelty circulator, the new form of hot water heating apparatus that is at present attracting so much attention wherever presented, and in due season will introduce other specialties. The New York office of the company is in the Stewart Building, corner Broadway and Chambers street and the Philadelphia office at 144 North Second street. The book descriptive of the Novelty circulator, containing illustrations of the installation of hot-water apparatus in dwellings, school, church, railway station, etc., and which bears the significant title of "Water and Air Circulation in Heating and Ventilating," is being sent to all applicants.

CONSTRUCTION DEPARTMENT.

WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

* Means machinery is wanted, particulars of which will be found in "Machinery Wanted" columns.

✉ In correspondence relating to matters reported in this paper, it will be a favor if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ALABAMA.

Bridgeport—Stone Quarries.—The Bonner Stone Co. has reorganized and purchased the Bridgeport Stone Co.'s business. F. J. Kilpatrick is president; Paul R. Bonner, secretary and treasurer, and Frank H. Edmunds, manager.

Huntsville—Spoke and Handle Works.—A hub, spoke and handle factory to employ thirty hands will be erected. The Huntsville Land & Improvement Co. can give information.

Huntsville—Electric-light Plant.—The Huntsville Electric Co. will put in a 1,000 light dynamo to be furnished by the Westinghouse Electric & Manufacturing Co.

Mobile—Saw Mill.—Charles S. Stanton will rebuild his saw mill reported in this issue as burned.

ARKANSAS.

Batesville—Canning Factory.—The Batesville Canning Factory has been chartered with a capital stock of \$50,000.

Little Rock—Lead Mines.—The Little Rock Mining & Smelting Co., Dixon C. Williams, president, has purchased and is now operating the Kellogg lead mines. This company has just been incorporated with a capital stock of \$500,000. G. H. Gedg is secretary and treasurer, and R. K. Pitkin, general manager.

Little Rock—Water Mills.—The Home Water Co. will lay two miles of mains, work to begin September 1.

FLORIDA.

Barrow—Clothing Factory.—A. G. Zipper will start the manufacture of clothing.

Bartow—Phosphate Company.—The Lake Hancock Pebble Phosphate Co. contemplates increasing its capital stock; a meeting to determine same will be held on August 26th.

Bartow—Paint Works.—Summerlin & Summerlin will establish a plant for the manufacture of ready mixed paints. Machinery has been ordered.

Dunnell in—Phosphate Plant.—The Marion Phosphate Co. is putting in an entire new phosphate plant, including washers, dryers, crushers and elevators.

Tampa—Iron Bridge.—Messrs. Jones & Cooper will build an iron railroad, driveway and passenger bridge across the Hillsboro river at Tampa.

Williston—Phosphate Mines.—J. V. Burke has organized a company to develop phosphate lands.

GEORGIA.

Acworth—Gin and Saw Mill.—Rainey & Son have improved their gin and saw plant, including the addition of a new boiler, etc.

Americus.—The city has contracted for a time well fire alarm telegraph system.

Dalton—Cigar Factory.—G. P. Covert, of Bunker, Ill., has started a cigar factory in Dalton.

Eatonton—Machine Shop.—W. S. Smith & Co. will erect a machine shop.

Fort Valley—Canning Factory.—A canning factory will be built. W. F. Wynne furnished information.

Griffin—Sash, Door and Blind Factory, etc.—W. C. Aycock, John A. Aycock and Edwin A. Anthony have incorporated the Aycock Manufacturing Co. to manufacture sash, door and blinds, etc. The capital stock is \$25,000, with privilege of increasing to \$50,000.

Hamlet—Ore Washing Plant.—The Cochrane

Iron Co. has erected an ore washing plant at a cost of \$10,000.

Leliston—Planing Mill.—Gay & Gatchell will erect a planing mill.

Lenox—Saw Mill.—A. G. Borden will put twin-engine feed and other machinery in his saw mill.

Savannah—Oil Works.—The damage to the S. P. Shot or Oil Co.'s works by the fire mentioned last week was slight, and has already been repaired.

KENTUCKY.

Ashland—Electric-light and Power Plant.—The Ashland Electric Light & Power Co. is enlarging its plant to double its capacity.

Bowling Green—Stone Quarries.—A charter has been granted to the Bowling Green Stone Co. to quarry stone, etc. The capital stock is \$150,000.

Lancaster—Flour Mill.—William Ward and J. C. Rucker, of Point Lick, have purchased the Lancaster Flouring Mills for \$7,000.

Leitchfield—Flour Mill and Elevator.—G. H. Gardner & Bro. contemplate erecting an elevator and remodeling their flour mill.

Louisville—Chair Factory.—The Telescope Chair Co. has been incorporated to manufacture a telescopic folding chair; capital stock \$100,000.

Louisville—Merchandise Company.—S. T. Moore, M. H. Davidson, A. Apperly, W. J. De Garmo and G. E. Redlin have incorporated the S. T. Moore Co. with a capital stock of \$200,000.

Louisville—Coal Mines.—The Kentucky Cannel Co. has been incorporated to mine coal; capital stock \$100,000.

Louisville—Gas Wells.—The Alexandria Co. has been incorporated to bore for gas in Kentucky and Indiana. The capital stock is \$250,000.

Louisville—Manufacturing Wine, etc.—The Sacksteder Wine & Grape Co. has been incorporated to cultivate grapes and manufacture wine. The capital stock is \$80,000.

Louisville—Tobacco Factory.—The Standard Tobacco Co. has been incorporated to manufacture tobacco. The capital stock is \$100,000.

Middlesborough—Woodworking Factory.—W. D. Osborne & Co. have put a number of additional machines in their woodworking factory.

LOUISIANA.

Abbeville—Sugar Mill.—J. H. Putnam, of Rose Hill Refinery, is erecting a 3-roller sugar mill, and not a diffusion plant, as was lately stated. The Reading (Pa.) Iron Works will furnish the machinery.

Alexandria—Sugar Refinery.—The Alexandria Sugar Refining Co., H. M. Loomer, secretary, reported several months ago as incorporated has secured building and contracted for the necessary outfit for a mill of 400 tons capacity per day. Thos. Deely & Co., of New York, will furnish the machinery.*

New Orleans—Cooperage Plant.—The Brooklyn Cooperage Co. is rebuilding its plant, reported last week as burned. All machinery has been secured.

New Orleans—Bitters, Syrups, etc., Manufacturing.—The A. Walz Co. has been incorporated for the purpose of manufacturing and selling Malakof bitters, cordials, syrups, etc. Alphonse Walz is president; A. L. Tissot, vice president, and Alphonse Jollissaint, secretary and treasurer; capital stock \$50,000.

New Orleans—Merchandise Company.—J. C. Prichard & Co., Limited, have filed articles of incorporation. The company's purpose is to transact a general merchandise business with H. T. Benoit as president; T. F. Campbell, vice-president, and J. C. Prichard, secretary and treasurer; capital stock \$25,000.

New Orleans—Merchandise Company.—H. T. Cottam & Co., Limited, have incorporated with a capital stock of \$200,000. Prudent Milard is president; H. T. Cottam, vice president, and Thos. J. Ferguson, secretary.

Rush Point—Cottonseed oil Mill.—The Rush Point Cotton Oil Manufacturing Co., recently reported, has let contract for the erection of its mill to the D. A. Tompkins Co., of Charlotte, N. C. The plant will have a capacity of thirty tons, and will be completed by November 1st.

MARYLAND.

Baltimore—Cigar and Cigarette Factory.—Henry Kraus and Felix Freidenrick have formed a partnership to continue the cigar and cigarette manufacturing business of Baron & Co.

Baltimore—Soap Company.—S. V. Harbaugh, John E. Hough, John E. Bennett, Chas. W. Kennard, Thad. Forrest and J. J. Kelly have incorporated the Atlas Soap Co. with a capital stock of \$50,000.

Baltimore—Manganese Mines.—The Caribbean Manganese Co., of Baltimore, has been incorporated in West Virginia to mine and deal in manganese, etc. The capital stock is \$200,000.

Baltimore—Glass Factory.—The Mary and Glass Manufacturing Co., previously reported, has completed its plant and will at once put it in operation. Glass is to be manufactured by a new process under patents of M. L. Murphy, of Pittsburgh, Pa. The plant has a capacity of fifteen tons daily, and will employ 200 men when in full operation.

Baltimore.—Thos. F. B. Clark, Louie A. Fiam, John L. Carroll and others have incorporated the Baltimore Dairy Lunch Co. with a capital stock of \$5,000.

Buckeystown—Canning Factory.—The Buckeystown Canning Co. has established a canning factory in Buckeystown.

Chestertown—Glass Factory.—The glass factory mentioned last week is an assured enterprise, and will be built next spring. Information furnished by Colin F. Stam.

Chestertown—Strawboard Factory.—The American Strawboard Co. is enlarging its plant to double its capacity.

Corinth.—The Cincinnati (Ohio) Corperage Co. writes that it has no intention of establishing a plant in Corinth.

Crisfield—Water Works.—John H. Bixton, of Laurel, has contracted to furnish Crisfield with a water supply.

Cumberland—Iron and Shafting Works.—Robert Shriver, Geo. Schwarzenbach, William Pearre, Merwin McKaig and others have incorporated the Cumberland Iron & Steel Shafting Co., and will erect works for the manufacture of the McKaig shafting. The capital stock of the company is \$100,000, all of which is subscribed.

Frederick—Brick Works.—The Frederick City Brick Works will be enlarged.

Hagerstown—Bicycle Works.—Raymond G. Surbridge, of Martinsburg, W. Va.; Martin L. Main, of Westminster; Fred A. Baker, S. M. Schindel and C. L. Keedy, of Hagerstown, have incorporated the Surbridge Manufacturing Co. to manufacture bicycles. Their capital stock is \$50,000.

Laurel—Canning Factory.—Elbert Thompson, James R. Glass, Thomas Cronmiller, George Gambrell and C. R. Mace have incorporated the Laurel Canning Co. to conduct a canning factory. Mr. Thompson is president; Mr. Cronmiller, secretary, and Mr. Glass, treasurer.

Lunaconing—Water Works.—A special election will be held on September 13 to consider the issuance of bonds for water works. Address the mayor for information.

Morganza—Saw Mill.—Thomas S. Turner will rebuild his saw mill reported last week as burned.*

Westminster—Furniture Factory.—J. W. Lockard and Philip M. Hunter will establish a factory for the manufacture of furniture.

MISSISSIPPI.

Crystal Springs—Lumber Mills, etc.—The Building & Manufacturing Co. has been incorporated for contracting purposes and for manufacturing lumber. Its capital stock is \$10,000.

Vicksburg—Cottonseed-oil Mill.—The Vicksburg Cotton Oil Co. is now engaged in putting in the new machinery mentioned last week, and in making considerable other improvements to its mill. The improvements will cost about \$36,000, and the mill will be ready for operation by September 15.

NORTH CAROLINA.

Caldwells—Ginnery.—The Caldwell Ginning & Milling Co., reported last week as to erect flour mill, will also erect a ginnery.*

Concord—Cotton Mill.—The Cannon Manufacturing Co. has put in additional machinery.

Fayetteville—Furniture Factory.—A furniture factory may be erected in Fayetteville. A movement is now afoot to secure the necessary capital.

Hickory—Woodworking Factory.—J. G. Hall, A. A. Shuford and others have established a leucost-pin factory near Hickory.

Mount Pleasant—Flour Mill.—W. R. Kindley contemplates erecting a roller flour mill.

SOUTH CAROLINA.

Aiken—Water Works.—The Aiken Water Works Co. has been chartered to construct the water works system for which E. F. Fuller lately obtained franchise. The incorporators are E. F. Fuller, of Orange, N. J.; Joseph E. Lopez, of New York; Percy Jackson, of Belleville, N. J., and B. F. Turner and F. B. Henderson, of Aiken. The capital stock is \$60,000.

Anderson—Publishing Company.—Rufus S. Hill, of Anderson; James S. Morgan, of Greenville; R. M. Bateman, of Spartanburg, and others have incorporated the Carolina Publishing Co. with a capital stock of \$15,000, fully paid in.

Chester—Electric-light Plant.—The Chester Manufacturing Co. will put an electric light plant in its mill; contract is let.

Georgetown—Rice Mill.—The Georgetown Rice Milling Co. has recently put eleven Engleburg rice hullers in its mill at a cost of \$4,000.

TENNESSEE.

Bluff City—Cotton Mill.—The Bluff Manufacturing Co. will probably rebuild its cotton mill reported in this issue as burned.

Cumberland Gap—Flour Mill.—A flour mill will be erected.

Erwin—Saw Mill.—C. H. Baker will start a saw mill on Rock creek.

Glenellen—Corn and Flour Mill.—Messrs. McCauley & Co. expect to rebuild their New York Flour Mills, reported last week as burned; corn mill will also be built.*

Milan—Barrel Factory.—Todd & Roper are building the barrel factory reported in our last issue.

Nashville—Steel Manufacturing.—Henry Wellington, Fred M. Hill, Charles E. Meilke, Harvey M. Munsell and Albert Bierstadt have incorporated the New Steel Process Co. for the purpose of manufacturing steel by Mr. Hill's process. The capital named is \$10,000,000.

Rhea Springs—Bridge.—The Massillon (Ohio) Bridge Co. has obtained contract to construct a steel bridge over the Piney river at Rhea Springs.

TEXAS.

Austin—Bridge.—The county has appropriated \$5,000 for the construction of a bridge over Boulton's branch, on the San Antonio road.

Belton—Electric Plant.—The Belton Electric Co. may put in water wheels to run its plant.*

Corrigan—Saw Mill.—Allen & Williams are erecting a new saw mill of 40,000 feet capacity per day.

Dallas—Cottonseed oil Mill.—The Trinity Oil Co.'s mill is about completed. The plant was furnished by the D. A. Tompkins Co., of Charlotte, N. C.

Denison—Bottling Works.—J. D. Elliott, Wm. Pitts and E. N. Allen have incorporated the Denison Bottling Works with a capital stock of \$10,000; purpose, to manufacture and sell carbonated beverages.

Gainesville—Electric-light Plant.—The Gainesville Cottonseed Oil Mill & Gin Co. will put in an electric-light plant to light its mill.

Hillshoro—A \$25,000 stock company will be organized to construct and maintain a fish tank to cover an area of about 100 acres.

Jefferson—Iron Foundry and Machine Works.—The Iron City Foundry Co. has been chartered to manufacture steel castings, machinery, etc.; incorporators, George W. Brown and others; capital stock \$25,000.

Llano—Granite Quarry.—J. A. & G. H. Wilson have opened a granite quarry near Llano.

San Antonio—Bridges.—The county commissioners will advertise for bids for the construction of three iron bridges across the Medina river—one at Palatto crossing, one at Man's crossing and one at Garza crossing.

Terrell—Cottonseed-oil Mill.—The Terrell Cotton Oil Manufacturing & Refining Co.'s mill is now under construction by the D. A. Tompkins Co., of Charlotte, N. C.

Trinity—Oil and Paint Works.—A. T. Anderson, S. H. Spangler and L. Loweith have incorporated the Saron City Oil, Paint and Chemical Works to manufacture and sell alcohol, turpentine, etc. The capital stock is \$50,000.

Tyler—Medicine Manufacturing.—The Pirine Medicine Co. has been incorporated to manufacture and deal in medicines. Its capital stock is \$50,000.

Tyler—Lumber Company.—J. E. Carroll, Rufus W. Carroll and Geo. H. Hamilton have incorporated the Hoo-Hoo Lumber Co., of Tyler county, with a capital stock of \$20,000.

VIRGINIA.

Alexandria.—The Glen Echo Resort Co. has been incorporated with a capital stock of \$300,000.

Buena Vista—Mineral Wool Factory.—The Buena Vista Co. has closed a contract with Washington (D. C.) and Roanoke capitalists for the erection of a factory to manufacture mineral wool from furnace slag.

Danville.—The Hatcher Plug Tobacco Shape Co. has been incorporated with a capital stock of \$50,000.

Graham—Lumber Mills.—The Graham Lumber Co. has been chartered to manufacture lumber, etc. Its capital stock is \$150,000. This concern is a reorganization of the old Virginia Lumber Co.

Norfolk—Real Estate.—The Caledonia Land & Improvement Co., has been incorporated to improve real estate. The capital stock is \$25,000.

Richlands—Saw Mill.—The Richlands Lime & Lumber Co. has established a saw mill on Big Creek, near Richlands.

Roanoke—Brick Works.—The Roanoke Brick Co. will at once rebuild its burned brick works.

Suffolk—Butter-dish Factory.—The Virginia Manufacturing Co. intends to enlarge its wooden butter-dish factory.

WEST VIRGINIA.

Arbuckle—Coal and Coke Company.—J. W. St. Clair, of Fayetteville, and others have incorporated the Arbuckle Creek Coal & Coke Co. with a privileged capital stock of \$1,000,000.

Charleston—Wagon Company.—W. R. Dudley, W. O. Dudley, C. D. O'Neil, Jno. W. Dudley and C. Lynn have incorporated the Star Wagon Co. with a capital stock of \$10,000.

Charleston—Cotton Company.—Stephen Weld and Joseph Gould, of Dedham, Mass.; William G. Reed, of Memphis, Tenn., and others have incorporated the Mississippi Valley Cotton Co. with a capital stock of \$5,000.

Davis—Pulp Mill.—The Piedmont Pulp & Paper Co., of Piedmont, will build at once a wood-pulp mill at Davis. The officers are: President, William Luke; treasurer, David L. Luke, and general manager, John Luke.

St. George—Publishing Company.—A. B. Parsons and others have incorporated the Democrat Publishing Co. for general publishing purposes.

BURNED.

Bluff City, Tenn.—The Bluff Manufacturing Co.'s cotton mills; loss \$30,000.

Crisfield, Md.—The Crisfield cannery; loss \$4,000.

Danville, Va.—W. M. Stulz's tobacco factory at Burnt Chimneys.

Jennerette, La.—The Belle Grove Refinery, near Jennerette; loss \$40,000; owner, Dr. S. B. Gay.

Mobile, Ala.—Chas. S. Stanton's saw mill; loss \$14,000.

Norfolk, Va.—A. Wrenn & Sons' carriage factory; loss \$20,000.

Pine Bluff, Ark.—The Lindell Hotel, owned by Rosenberg & Miller.

Raleigh, N. C.—The acid building of the Caraleigh Phosphate Works; loss \$50,000.

Rockoak, W. Va.—A. B. McCarty's bark extract works.

BUILDING NOTES.

Aiken, S. C.—Opera-house.—The erection of an opera house is talked of. C. M. Felder, of Augusta, Ga., can probably give information.

Annapolis, Md.—Courthouse.—W. B. Gardiner has contract at \$22,940 to rebuild the Anne Arundel county courthouse recently mentioned.

Augusta, Ga.—Hotel.—Hugh Middleton is endeavoring to organize a stock company to erect a hotel at Clark's Hill.

Augusta, Ga.—Church.—Mr. Todd is preparing plans for the church building recently reported as to be built by the colored congregation of Thankful Church. It will be of brick and stone and cost \$25,000.

Baltimore, Md.—Warehouse.—Armour & Co., of Chicago, Ill., will erect a warehouse 23x165 feet in Baltimore at a cost of \$50,000.

Bristol, Tenn.—The Bristol Title Bank & Trust Co. will erect a building to cost \$10,000.

Bruceville, Md.—Hotel.—Amos Dutterer is reported as to erect a hotel.

Chewsville, Md.—Church.—The Radical United Brethren congregation will erect a new church.

Dawson, Ga.—A new depot may be erected for the Central Railroad.

East Lake, Ala.—A school building will be erected. For information address J. D. Truss.

Edenton, N. C.—Church.—The church recently reported as to be built will cost about \$6,000. B. D. Price, of Philadelphia, Pa., is the architect.

Fort Worth, Texas.—John C. Harrison will erect a residence to cost \$8,000.

Fort Worth, Texas.—William Bryce will build a brick dwelling at a cost of \$10,000.

Hattiesburg, Miss.—Depot.—A new depot will be erected for the Queen & Crescent Route, to replace the one recently burned.

Jonesboro, Ark.—School Building.—The Jonesboro Normal School Co. has been organized to erect a school building. Jno. T. Stoddard, president, can be addressed for information.

Lexington, Va.—Office Building.—The Frank Lyman Furnace Co. will build a \$6,000 two story office building 35x35 feet. Rose & Will have prepared the plans.

Louisville, Ky.—Depot.—Contract for the erection of the new freight depot for the Jeffersonville, Madison & Indianapolis Railroad has been let to W. S. Barker, of Pittsburg, Pa.

Lynchburg, Va.—Bell, Barker & Jennings will build a five-story brick and stone business-house 50x100 feet at a cost of \$18,995. Adams & Woodson have contract for its erection.

Macon, Ga.—School Building.—M. H. Cutter has received contract from the board of education to erect a school building in East Macon.

New Orleans, La.—Hall Building.—It is reported that American, Jefferson, Audubon and Onward Lodges of the Knights of Pythias have organized a stock company to build an \$18,000 Pythian hall.

Ocala, Fla.—Jail.—Plans and specifications for the new jail building recently reported will be received until September 5; H. W. Long, chairman of committee.

Pensacola, Fla.—Bank Building.—The First National Bank will not erect a new building, as stated last week, but will remodel and furnish a building already built. The Robt. Mitchell Furniture Co., of Cincinnati, O., has contract for the work.

Point Pleasant, W. Va.—A. F. Kiser and the Order of Elks will jointly erect a brick business block.

Radford, Va.—Opera-house, etc.—A syndicate will erect an opera-house and market 50x100 feet, to be lighted by gas and electricity and heated by steam. Harry Austin, architect, prepared the plans.

San Antonio, Texas.—Hotel.—J. M. Peebles, George W. Russ and others have incorporated the West End Sanitarium Hotel Co. to establish a hotel; capital stock \$30,000.

Savannah, Ga.—Warehouse.—Percy Sugden has prepared plans for a three-story warehouse building to be built for Decker & Fawcett at a cost of about \$15,000. Scott & Hawley have the contract.

Savannah, Ga.—Hotel.—The Wilmington Island Pleasure & Improvement Co. at its annual meeting last week decided to erect a hotel on the island.

Washington, D. C.—H. C. Ewald will build a \$5,000 residence. Jno. C. Yost has the contract.

Washington, D. C.—Church.—C. T. S. Brent has prepared plans for the church which the Third Baptist congregation will erect at a cost of \$19,000. Edward Winslow has the contract.

Washington, D. C.—A. M. Lawson will build seven three-story dwellings at a cost of \$30,000. Julius Germauer prepared plans.

Washington, D. C.—Austin P. Brown will erect an \$8,000 dwelling at Petworth. Victor Mindelef has prepared plans.

Washington, D. C.—Julius Germauer has prepared plans for a three-story dwelling to be erected for R. C. Mangum at a cost of \$6,000.

Washington, D. C.—J. A. Blundon has let contract to Blundon & Watts for the erection of four two-story buildings at \$12,000.

Williamson, W. Va.—Bank Building.—The National Bank of Williamson will erect a bank building to cost not less than \$10,000.

Wilmington, N. C.—Office Building.—The Carolina Insurance Co. will erect an office building.

Winston, N. C.—Hill C. Linthicum, architect, is preparing plans for a six-story factory building 52x125 feet for Cicero Tise.

RAILROAD CONSTRUCTION.

Ashland, Ky.—Electrical Railroad.—The Ashland & Catlettsburg Street Railway Co. has commenced work on the extension of its electric street railway from Ashland to Catlettsburg.

Atlanta, Ga.—Electrical Railroad.—Clyde L. Brooks, attorney, writes that an electric railroad will be built from Atlanta to Decatur by a concern to be known as the Suburban City Railroad Co. Work is to commence in thirty days.

Camden, Ala.—Railroad.—The Montgomery, Hayneville & Camden Railroad Co. was permanently organized on August 23, and the contract for the grading of the first ten miles, commencing at Camden, will be let immediately. Above furnished by Sol. D. Block.

Coproe, Texas.—Railroad.—Jas. A. Smyth, secretary, writes that the Texas, Louisiana & Eastern Railroad has resumed construction of its line, and on the 13th began laying twelve miles of steel rails on grade already prepared for same. All bridging will be completed and track laid to crossing of the Houston, East & West Texas Railroad, a distance of 15½ miles, by October 15.

Daytona, Fla.—Railroad.—Matthew Hays has completed the grading of the Jacksonville, St. Augustine & Halifax River Railroad (office, St. Augustine) from Daytona to New Smyrna, and the track is now ready for the rails.

Dublin, Ga.—Railroad.—The Macon, Dublin & Savannah Railroad Co. will, as stated in our last issue, commence at once the construction of its road from Dublin to Savannah. Work will be commenced on the Savannah end of the line in order to comply with the terms of the city's grant, which compels the beginning of the work by September 1st. Jas. T. Wright, of Macon, is general manager of the road.

Galveston, Texas.—Railroad.—L. F. Manage, president of the North Galveston Railway Co., has let contract to J. H. Barrett, of Houston, for the construction of a railroad from Virginia Point to Galveston, a distance of seventeen miles. Work on the line is to commence at once and be completed by November 1st.

Hollow Rock, Tenn.—Railroad.—Messrs. Sullivan, Johnson & McGlaughlin are progressing

rapidly with the grading of the Paducah, Tennessee & Alabama Railroad (office, Paducah, Ky.) from Hollow Rock to Lexington, a distance of thirty miles. Tracklaying has already commenced, and the road is expected to be completed by September 14th.

Houston, Texas.—Belt Railroad.—The Houston Belt Railroad Co. has placed its bonds, and will at once begin the construction of its road.

Louisville, Ky.—Electrical Railroad.—The Kentucky & Indiana Bridge Co. intends to construct an electrical railroad at a cost of \$80,000.

Louisville, Ky.—Electrical Railroad.—The Daisy Line Street Railway contemplates constructing an electrical railroad between Louisville and New Albany at a cost of \$80,000.

Morgantown, W. Va.—Railroad.—The Baltimore & Ohio Railroad Co. (office, Baltimore, Md.) now has under contract its entire State Line branch from Uniontown, Pa., to Morgantown, and it will be completed by next January. The line is twenty-one miles long.

New Smyrna, Fla.—Railroad.—Louis McLain is progressing rapidly with his contract on the Jacksonville, St. Augustine & Halifax River Railroad (office, St. Augustine) from New Smyrna to Titusville.

Ocala, Fla.—Railroad.—It is reported that arrangements are being made for the construction of a railroad from the New York Phosphate Co.'s mine to Martel, on the Silver Springs, Ocala & Gulf Railroad.

Oxford, N. C.—Railroad.—Work on the construction of the Oxford & Coast Line Railroad will commence at once, as was recently stated, and be pushed to an early completion. Only one mile of road-bed remains to be graded.

San Antonio, Texas.—Street Railway.—P. A. Saunders, William A. Bowen and A. W. Gray have petitioned the city council for authority to construct a street railroad.

Stillman, Ga.—Lumber Railroad.—George Bronson is building a lumber railroad from Stillman to Collins, on the Savannah & Western, a distance of twenty miles.

Tifton, Ga.—Railroad.—The Georgia Southern & Florida Railroad Co. (office, Macon, Ga.) has, through W. B. Sparks, receiver, petitioned the Superior court for permission to borrow \$400,000 for the purpose of building a branch road from Tifton to Thomasville. This branch was in course of construction when the road went into the hands of a receiver, and no work has been done on it for eighteen months.

Washington, D. C.—Railroad.—The Pennsylvania Railroad Co. (office, Philadelphia, Pa.) is about to commence work on the construction of a branch road from Washington to Rosslyn by way of the National cemetery at Arlington. The new line will be known as the Arlington branch of the Washington & Southern Railroad.

Washington, D. C.—Electrical Railroad.—C. P. Williams, secretary and treasurer of the Brightwood Railway Co., writes that the company will commence work on its road September 18th, as stated in our last issue. Ties and rails have already been contracted for.

MACHINERY WANTED.

If you desire to purchase machinery of any kind consult our advertising columns, and if you cannot find just what you wish, send us particulars as to the kind of machinery needed. We will make your wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. You will thus get all information desired as to prices, etc.

Belting.—Thos. S. Turner, Morganza, Md., wants to purchase belting.

Boiler.—The Taylor Electric Light & Power Co., Taylor, Texas, may want a 100 horse-power boiler.

Boiler and Engine.—W. T. Griffin, Gold Rock, N. C., wants an eighteen horse-power boiler and a fifteen horse power engine on a wagon.

Boilers and Engine.—The Alexandria Sugar Refining Co., Alexandria, La., will want boilers and engine. Address H. M. Loomer, secretary.

Cars.—The Brightwood Railway Co., Washington, D. C., will contract for cars for electrical road. Address C. P. Williams, secretary and treasurer.

Cotton Mill Machinery.—The Rosedale Manufacturing Co., Rock Mills, Ala., wants to purchase a new 72-spindle speeder.

Cotton Mill.—E. Nicholson, Union, S. C., wants prices on cotton-mill machinery.

Dummy Engine.—The H. Dudley Coleman Machinery Co., New Orleans, La., wants a 6-ton dummy engine for a 3-foot gauge, new or second-hand. If second-hand it must be in perfect order, and the boiler be tested to 150 pounds cold water pressure.

Electric Generator.—The Taylor Electric Light

& Power Co., Taylor, Texas, may want a 220 volt fifty horse-power generator.

Electric-light Plant.—The Gainesville Cottonseed Oil Mill & Gin Co., Gainesville, Texas, wants to correspond with manufacturers of electric-light plants.

Electric-power Plant.—The Brightwood Railway Co., Washington, D. C., will contract for its electric plant. Address C. P. Williams, secretary and treasurer.

Elevator.—G. C. Farthing, Durham, N. C., will want an elevator.

Engine.—The Taylor Electric Light & Power Co., Taylor, Texas, may want a fifty horse-power engine.

Engine.—The Tygart Manufacturing Co., Morgantown, W. Va., will need engine.

Excelsior Machinery.—W. J. Graham, Greenville, S. C., wants full particulars regarding machinery for making excelsior packing.

Excelsior Machinery.—A. B. Bowman, Knoxville, Tenn., wants full particulars regarding machinery for making excelsior packing.

Flour Mill.—The Caldwell Ginning & Milling Co., Caldwells, N. C., will need machinery for a roller flour mill. Address J. M. Dove, secretary.

Flour Mill, etc.—McCauley & Co., Glenellen, Tenn., will doubtless want entire line of machinery for a 50 barrel flour and corn mill.

Gas Plant.—A gas plant will be wanted for the Salem Hotel. Address G. W. Kittell, Salem, Va.

Ginnery.—The Caldwell Ginning & Milling Co., Caldwells, N. C., will need machinery for a ginnery.

Heating Apparatus.—Came & Lynch, architects, Wichita Falls, Texas, want heating apparatus for a school building.

Heating Apparatus, etc.—W. J. Edbrooke, Washington, D. C., will receive sealed proposals until September 15 for furnishing, etc., the steam-heating and ventilating apparatus for the United States custom house, etc., building at El Paso, Texas. (See ad.)

Hydraulic Rams.—J. Osborn, Amherst C. H., Va., wants information on hydraulic rams.

Ice Machine.—The Osborn Machinery Co., Clarksburg, W. Va., wants full information, prices, etc., on a 15 to 20-ton ice machine.

Iron Fencing, etc.—B. J. Fisher, Asheboro, N. C., wants to fence 250 acres with wrought iron and 1½ inch pipe and drilled five holes for wire, or will use any other post recommended for cheapness and strength.

Iron Lathe.—The Tygart Manufacturing Co., Morgantown, W. Va., will need an iron lathe.

Mortiser.—Brooks & Richter, Sweet Chalybeate, Va., want a hub mortiser.

Paper-bag Machinery.—W. A. Eady, Sandhill, Ga., wants to correspond with manufacturers of paper-bag machinery.

Piping.—J. Osborn, Amherst C. H., Va., wants information concerning piping.

Planers.—S. M. Smith & Sons, Sequachee College, Tenn., want prices on planers.

Planing Mill.—The Tygart Manufacturing Co., Morgantown, W. Va., will need full outfit of planing mill machinery.

Pump.—The Alexandria Sugar Refining Co., Alexandria, La., will want pump. Address H. M. Loomer, secretary.

Pumps, Turbines, etc.—John McDonald, mayor, Austin, Texas, will receive sealed proposals until September 1 for pipes, valves, head-gate, frames, turbines, castings and pumps.

Saw Carriage.—W. T. Griffin, Gold Rock, N. C., wants a 55 inch saw carriage, belt, wrenches, hooks and everything complete, (Reamy feed head-block).

Saw Mill.—Thomas S. Turner, Morganza, Md., wants to purchase a saw mill.

Spoke Lathe.—Brooks & Richter, Sweet Chalybeate, Va., want a spoke lathe.

Steam Plant.—The Brightwood Railway Co., Washington, D. C., will contract for steam plant. Address C. P. Williams, secretary and treasurer.

Stretching Frames.—Henry Popham & Son, East Newark, N. J., want to purchase stretching frames for belt leather.

Switchboard.—The Wellford Telephone Co. will want a 20-wire switchboard. Address J. W. Jones, secretary, Wellford, S. C.

Tanks.—J. Osborn, Amherst C. H., Va., wants information on tanks.

Tenoning Machine.—Brooks & Richter, Sweet Chalybeate, Va., want a tenoning machine.

Tools, etc.—Will S. James, Weatherford, Texas, may want trimmers' tools and plumbers' outfit.

Water Wheels.—The Belton Electric Co., Belton, Texas, will want turbine wheels.

Carter & Dawson, Buchanan, Va., want to correspond with manufacturers of small tin boxes.

Chas. E. L. B. Davis, of Washington, D. C., will receive sealed proposals until September 7 for oyster shells and riprap stone, and for constructing jetty at Nomini creek, Va.

Fredk. V. Abbott, of Charleston, S. C., will receive sealed proposals until September 9 for dredging Brickyard creek.

Lem Hall, secretary of the Commercial Club, of Milan, Tenn., would like to correspond with parties in regard to a canning factory.

Paul Sattelkau, of Jacksonville, Fla., wants quotations on 500 kits for packing pickled fish, kits to be of fifteen gallons capacity and of a shallow shape.

Paul Sattelkau, of Jacksonville, Fla., Box 704 wants quotations on from 10,000 to 20,000 2 pound tin cans for packing fish; he desires samples.

S. E. Rice, of Apalachicola, Fla., wants a second-hand naphtha launch not over thirty feet in length.

W. H. H. Hamilton, of Abingdon, Va., wants to buy a merry-go-round at about \$1,500.

SOUTHERN FINANCIAL NEWS.

New Banks.

Baltimore, Md.—A new bank with a capital stock of \$50,000, to be known as the Canton National Bank, will be organized and established in Canton by Simon P. Schott, Joshua Horner, George Gunther and others. Application to organize has been filed with the United States comptroller. William Fatt is temporary cashier.

Bristol, Tenn.—The Bristol Title, Bank & Trust Co. will increase its capital stock from \$100,000 to \$150,000. A. B. Marston, of New York, is to be general manager of the company.

Chattanooga, Tenn.—J. H. Wagner, president of the Fourth National Bank, writes that the consolidation of his institution with the Merchants' National Bank is likely to occur, but that details are not fully completed.

Clinton, N. C.—R. C. Holmes, mayor, confirms the rumor mentioned last week that a new bank will be started in Clinton. It is to have a capital stock of \$50,000.

Florence, Ala.—H. M. Hall has been appointed receiver of the Florence National Bank in place of Col. J. C. Goodlow.

Nashville, Ark.—The Howard County Bank has filed articles of incorporation with a capital stock of \$25,000. The incorporators are M. M. Spears, president; W. H. Terry, vice-president, and D. P. Terry.

Weldon, N. C.—The Bank of Weldon, recently reported as fully organized, etc., has commenced business.

Arcadia, Fla.—The city intends holding an election to vote on the question of issuing water works bonds. For information address the mayor.

Austin, Texas.—The Missouri, Kansas & Texas Railway Co. has filed in the State Department the copy of a resolution authorizing the mortgage of its corporate property and franchises to secure the payment of an issue of bonds amounting to \$10,000,000 for the extension and improvement of the system.

Birmingham, Ala.—The Birmingham Investment & Abstract Co., lately reported, has for its purposes investment in real estate, liens, judgments, personal securities, mortgages, etc., together with a general business as abstractors of land titles.

Cleveland, Tenn.—It is reported that the citizens of Cleveland will soon be asked to vote a subscription of \$50,000 to a new railway to be built from Chattanooga via Cleveland to connect with the Knoxville Southern Railroad.

Concord, N. C.—The Cannon Manufacturing Co. has declared a semi annual dividend of 4 per cent.

Durham, N. C.—A branch of the Equitable Building & Loan Association, of Augusta, Ga., has been organized in Durham with B. L. Duke, president; Lucius Green, vice-president, and E. C. Murray, secretary and treasurer.

Denison, Texas.—A meeting of the stockholders of the Missouri, Kansas & Texas Railway Co., of Texas, was held at Denison on August 17 for the purpose of authorizing an increase of the capital stock to the amount of \$13,000,000 and authorizing the company to borrow money to the amount of \$10,000,000 for constructing, completing and operating the railway, including certain extensions, and to issue and dispose of its bonds for \$10,000,000, secured by a mortgage of the corporation's property and the extensions.

Gainesville, Fla.—The city council has ordered an election to determine the issuance of \$15,000 of city improvement bonds. For further information address the mayor.

Griffin, Ga.—The Griffin Manufacturing Co. has declared an annual dividend of 10 per cent.

Huntington, W. Va.—The Consolidated Light & Railway Co. is considering the issuance of bonds.

Jacksonville, Fla.—The bond trustees have accepted the bid of A. W. Knight at 101½ for \$175,000 of the county bonds.

Kissimmee, Fla.—The city intends voting on the question of issuing \$10,000 of improvement bonds. The mayor can give information.

Lonaconing, Md.—The city's special election which was to be held on August 20 has been postponed to September 13. Its purpose is to decide the question of issuing \$40,000 of water works bonds. The mayor can be addressed for particulars.

Savannah, Ga.—The Forsyth Investment Co. has declared a dividend of 5 per cent., payable on and after September 1.

Suffolk, Va.—The city will issue \$5,000 of bonds for a school building. For particulars address R. L. Brewer, Jr., mayor.

TRADE NOTES.

THE Coaldale Brick & Tile Co., of Birmingham, Ala., will move its office on September 1 from 2017 to 2022½ First avenue. This company has just secured an order from the Central Railroad for 1,000,000 brick for Oak Mountain tunnel, and if these prove satisfactory an order for 5,000,000 will follow.

THE Common Sense Engine Co. is now moving from Springfield, Ohio, to its new works at Muncie, Ind., and requests that future correspondence be addressed to Muncie. With its new plant and increased facilities the company will be in position to give prompt and careful attention to orders.

THE Belmont Iron Works, Limited, of Philadelphia, has a large trade in bridge railings, of which this concern makes a specialty. Messrs. Wilson Bros. & Co. have specified, and there is now being made about 10,000 feet of this rail for the viaducts of the new Reading terminal in Philadelphia, and 2,000 feet of it have been specified for the new bridge over the Raritan river at New Brunswick, N. J. Over 2,000 feet were used for the new bridge now being built at Ottumwa, Ia., and Mr. W. Kesley Schoff, chief engineer of the Rock Creek Railway, Washington, D. C., used nearly 3,000 feet of this railing last year for the viaducts of that company. The cities of Chicago and Philadelphia have been specifying it for years for their new bridges. The Belmont Iron Works, Limited, has had a large trade in park settees, which are used by many of the large cities and railroads.

THE Texas Coal Tar & Asphaltum Co. was organized for the purpose of handling asphalt from Mexican mines which they control, having already secured long time contracts on all the coal tar manufactured in central Texas, and propose to add to this the manufacture of building papers and the distillation of coal tar into roofing pitch. This company will represent in Texas the well-known brands of building paper which are manufactured by the Powerville Felt Roofing Co., of New York and Chicago. Mr. Thomas F. King, of Dallas, is president of the Texas Coal Tar & Asphaltum Co., and Mr. George E. Cory, of Chicago, is secretary and treasurer. Capital of the company is \$50,000, and which may be increased whenever the management sees fit. The policy of the company is to be very conservative, yet very aggressive towards manufacturers making a similar line of goods located outside of Texas. The company starts in under very favorable auspices, having bought out the trade held by the Powerville Felt Roofing Co.; thus the company enters the field with a large number of well-known jobbers on their books.

DR. HENRY FROEHLING, the well-known chemist and mining engineer, of Richmond, Va., has added three new departments to his already extensive laboratory. One is for the testing of cements and raw materials for Portland cements; the other is for testing clays, including pyrometric methods, so that the value of each particular clay and the purpose for which it may be best suited will be determined. These two departments are under the special charge of Dr. Froehling, who has had twenty years' experience in this line. The third department, for the complete analysis of fertilizers, is already well patronized by some of the most prominent fertilizer firms of the South. Dr. Froehling reports to us that there seems to be an increasing interest in the gold mining industry of Virginia and North Carolina, as the assay department, which is under the special charge of Otto Meyer, Ph.D., (Leipzig), has been extremely busy within the last few months. Judging from the number of mineral properties examined lately, the mineral industry of Virginia, West Virginia and North Carolina seems to be growing considerably. Of special interest is the activity in copper properties in North Carolina and Virginia; also the coal industry of Virginia is apparently taking a new start.

THE Neracher & Hill Sprinkler Co. has recently closed contracts for complete sprinkler equipments with the following firms: E. A. Ross & Sons, Jamestown, N. Y.; the Armour Packing Co., Kansas City, Mo.; Geo. M. Brinson, Stillmore, Ga.; Beckman & Co., Cleveland, Ohio; Botsford Paper Mill Co., Kalamazoo, Mich.; Chicago Sewing Machine Co., Chicago, Ill.; Clinton Milling Co., Wilmington, Ohio; Cincinnati Electric Light & Power Co., Cincinnati, Ohio; Cordele Manufacturing Co., Macon, Ga.; Exposition

Cotton Mills, Atlanta, Ga.; Frost Veneer Seating Co., Sheboygan, Wis.; Guckenheimer & Sons, Savannah, Ga.; Harvey & McGuire, Chicago, Ill.; T. F. Kelley, Philadelphia, Pa.; Kelley Bros. Manufacturing Co., Muskegon, Mich.; Liken & Each, Akron, Mich.; B. Lowenthal, Bros. & Co., Chicago, Ill.; J. B. Mallers, Chicago, Ill.; McShane Manufacturing Co., Baltimore, Md.; Murphy, Wasey & Co., Detroit, Mich.; Nixon & Zimmerman, Philadelphia, Pa.; National Sewer Pipe Co., Barberton, Ohio; National Paper Manufacturing Co., New York, N. Y.; John C. Neemes & Co., Chicago, Ill.; Northwestern Wire Mattress Co., Kenosha, Wis.; Rockford Mirror Plate Co., Rockford, Ill.; Charleroi Plate Glass Co., Charleroi, Pa.; Schlesinger & Mayer, Chicago, Ill.; Shephard, Norwell & Co., Boston, Mass.; Schloss Bros. & Co., Baltimore, Md.; Garmo & Co., Keokuk, Iowa.

THE Rochester Machine Tool Works, Limited, builders of the Acme automatic safety engines, Rochester, N. Y., write to us as follows: "We are glad to say that our business has been better this year than in any previous year. The Acme has now been on the market seven years, and it is now at work in nearly all quarters of the globe. We have them in Europe, Asia, Africa and on the eastern and western coasts of South America, and in every State in the Union at the present time. The use of the Acme on farms and for driving the De Laval separators in creameries is steadily growing. We are also building up quite a trade in two, three and four horse-power engines only, which are very compact and which will stand the test of continuous running, we having had them run for 200 hours continuously without attention better than any small engine that we know of. Being licensed under the Westinghouse patent, carrying oil in the base which oils all the interior parts, and their close regulation of speed, which has been demonstrated by experts to be equal to any large engine built, has caused quite a number of the four horse power to be put at work driving light dynamos, and where they have a varying load through the day and night at anywhere from five to fifty lamps of sixteen candle-power, which are thrown off and on without disturbing the speed of the engines or the light in the least."

THE Williams Manufacturing Co., of Kalamazoo, Mich., has been making windmills ever since 1867, and is probably as well known all over this country and abroad as any other concern in this line. We are informed that the Imperial Pine Product Co., of Wilmington, N. C., has just placed with the Williams Manufacturing Co. an order for eleven tanks to be made out of Louisiana red cypress. L. M. Bates, of 321 Vine street, Philadelphia, Pa., has ordered a carload of pine and cypress tanks from this company, and they are furnishing tanks for the American Biscuit Co. to be used in connection with automatic fire sprinklers. The Williams Manufacturing Co. has just made a shipment of tanks in connection with windmills to England, and, in fact, these people cover nearly every part of the world in the windmill trade, and of course the tank trade will follow. With abundant capital, they are prepared to have cut to order plank thirty feet long, so that they are prepared to make a tub out of white pine up to thirty feet in diameter if people want them. We understand, however, that they are not able to make any larger tank than eighteen feet in diameter out of cypress, as that is as long as the logs are cut. The success of this company shows that a business of this character closely followed and judiciously advertised has got to prove a paying business, and we are very glad to note the success of any company, especially one having a nice foreign trade which will grow on their hands from this time forward.

TRADE LITERATURE.

THE Neracher & Hill Sprinkler Co., of Warren, Ohio, have sent out a finely designed pamphlet containing drawings and photographic reprints of some of the large establishments using their sprinkling system. Within it are also brief extracts from the many testimonials they have received as to the efficiency of their apparatus.

J. E. BOLLES & Co., of Detroit, Mich., have issued a complete catalogue and price-list, No. 11, of the large variety of ornamental iron and brass railings, grills, etc., for which they are well known. Some particularly neat and tasteful designs for bank railings and elevators cars and shafts are shown. Instructions are given for ordering and sending for estimates. The catalogue is tastefully prepared and will be of the greatest service to architects or others desiring to put in such fixtures.

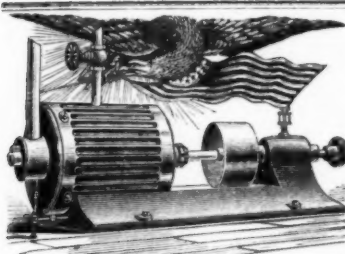
THE Thomas Manufacturing Co., of Little Rock, Ark., is distributing a little circular containing some valuable hints as to handling and preparing cotton for market. A number of testimonials are given as to the excellent work accomplished by the Gwathmey patent end-feed gin made by this company, and also a description and illustrations of both the non separating and separating condensers attached to these gins. The valuable feature of the latter is that it sepa-

rates the low grade from the high grade cotton, and delivers each from a different opening.

ONE of the most beautifully designed and executed pamphlets which has come to our attention is that issued by Bartlett & Co., designers engravers and printers, 21 and 23 Rose street, New York. The pamphlet, which is one of their own products, is entitled "A Modern Triumvirate," a most appropriate name, representing the three members of the firm, Edward E. Bartlett, Theo. von der Luhe and Louis H. Orr. The cover of the pamphlet is cream colored and beautifully embossed. Inside the title page is a true work of art, and, indeed, the same might be said of all the printing and engraving inside.

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SOUTHERN BANKS.

Below is published a list of Banks and Bankers in the Southern States, whom the MANUFACTURERS' RECORD commends to its readers:

GEORGIA.

AUGUSTA—Georgia Railroad & Banking Co., Chas. H. Phinizy, President. Capital \$4,200,000.

MACON—American National Bank, Wm. H. Burden, President. Capital \$250,000.

MACON—Exchange Bank, H. J. Lamar, President; J. W. Cabaniss, Cashier. Capital and surplus \$550,000.

MACON—First National Bank, J. C. Plant, President. Capital and surplus \$250,000.

SOUTH CAROLINA.

COLUMBIA—Carolina National Bank, W. A. Clark, President. Capital \$100,000.

VIRGINIA.

BUENA VISTA—Buena Vista Loan & Trust Co., C. B. Guyer, Pres. Capital \$100,000.

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DIRECTORS:

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WILLIAM M. BIRD, of Wm. M. Bird & Co., wholesale paints and oils.

JAMES ALLAN, of James Allan & Co., jewelers.

J. H. F. KORNIG, with Knoop, Frerichs & Co., cotton exporters.

Geo. B. Edwards, Pres. Elec. Lt. & Power Co.

JOHN L. WILLIAMS & SON, BANKERS,

RICHMOND, VA.

Our Manual of Investments for 1906, the largest work of the kind published by any banking house in America, (406 pages, octavo, cloth,) may be had without charge by clients, correspondents and those expecting to do business with us; by others at \$2 per copy.

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HELP WANTED.

WANTED—SALESMAN for Baltimore and South on commission to sell belting and lace leather to consumers. Address HY. POPHAM & SON, East Newark, N. J. S16

WANTED—BOOK KEEPER to take charge of the books and store of this Company; also a Mine Foreman to take charge of a new coal mine now ready to ship coal. Address KENTU KY COAL & COKE COMPANY Coe burh, Wise County, Va. S16

WANTED—Experienced and Reliable MAN to engage in manufacturing tobacco and cigars. For particulars address B 40, care MANUFACTURERS' RECORD. S16

WANTED—A FOREMAN competent to manage and operate a small Farm Wagon Factory. Address W. G. UPCHURCH, President, Raleigh, N. C. S16

WANTED—TWO MEN, one a first-class TRAVELING MAN, thoroughly posted on stained glass, to work the Southern States. Must be a designer on Stained Glass and an experienced traveler. The other a first-class DESIGNER to take charge of shop. State age, experience, salary, and furnish references. Permanent employment to the right men. Address 'GLASS,' MANUFACTURERS' RECORD. S9

WANTED—An Ingenious, Skilful and Speedy PATTERNMAKER for agricultural factory. Grain drill work a specialty. A good place for the right man. Address with references "PATTERNMAKER," care MANUFACTURERS' RECORD. S9

WANTED—Machinists or Traveling Salesmen to handle a line of Machinists' fine tools as a side line. Liberal commission to the right parties. Address E. G. SMITH, Columbia, Pa. S2

WE NEED A FIRST-CLASS MAN to take charge of a Stave Mill. Must be sober and industrious and thoroughly understand his business. Address H. M. WHITE, Ore Bank, Va. S2

WE WANT A FIRST-CLASS MAN to run a Spoke and Handle Factory. Sober and industrious men only apply. References required. Address H. M. WHITE, Ore Banks, Va. S2

SITUATIONS WANTED.

WANTED—By Expert Mechanic and Draftsman, position as SUPERINTENDENT or Mechanical Engineer. Have experience on electrical machinery. Address "J. P.," care of MANUFACTURERS' RECORD S16

WANTED—By a man competent, able and willing to work, an opportunity to make himself useful in any line of employment in the South. Satisfactory references given. Address EDWARD F. TAGGART, Elkton, Md. S16

WANTED—An Experienced TRAVELING SALESMAN, nineteen years old and well acquainted with the trade, wishes position with good jobbing house. Would prefer Southern or Western territory. Address FRANK M. YOUNG, 402 Penna. Ave., Greensburg, Pa. S16

WANTED—Position on the road. Best reference furnished. Machinery and mill supplies preferred. Address "FIRST," care of MANUFACTURERS' RECORD. S16

WANTED—Practical MINING ENGINEER wants situation as superintendent of mines, or would accept position as foreman. Iron mining preferred. Address "MINING ENGINEER," MANUFACTURERS' RECORD. S6

SULPHURIC ACID First-class Chemical Engineer is prepared to erect pyrites plants and take management of same. At references Address "B," Box 252, Bayonne, N. J. S16

WANTED—A Position by a STENOGRAPHER and TYPEWRITER. Can furnish good recommendations. Address "APPLICANT," care MANUFACTURERS' RECORD. S16

WANTED—Young man (single), well educated and experienced desires situation as Stenographer, Typewriter and Clerk with some manufacturing or railway company. Best references. Address "HAL," MANUFACTURERS' RECORD. S16

WANTED—Position as SECRETARY, Stenographer and Typewriter by young man, well educated and capable. Understands book-keeping and has had business and railroad experience. Address 211 S. Conception Street, Mobile, Ala. S9

SITUATION WANTED—By a Young ARCHITECTURAL DRAFTSMAN, two years experience, in architect's office or with a good manufacturing company where architecture is used. Address B, care M'P'RS' RECORD. S9

A Thoroughly Practical ENGINEER, for past four years in charge of dredging and washing machinery in South Carolina, is desirous of similar situation in Florida. T. C. FULLER, Macon, Fla. S9

WANTED—Situation as BOOK KEEPER by a thoroughly Accountant of ten years' experience. Thoroughly acquainted with the Lumber, Saw and Planing Mill business. South or West preferred. Exceptional references from present employers. Address J. W. LAUGHLIN, Bridgeport, Alabama S2

WANTED—A position in some Mercantile or Manufacturing House as BOOK KEEPER or SALESMAN. Fifteen years' experience. Age 35. References, interest of employer strictly guarded. Address "H. C.," care of MANUFACTURERS' RECORD. S2

STENOGRAPHER and TYPEWRITER (Remington) wishes permanent position in the South. Address "J. W.," care of MANUFACTURERS' RECORD. S2

WANTED—Young man with three and a half years' experience at cotton mill engineering and machine designing wishes position as DRAUGHTSMAN or Assistant Superintendent in a cotton mill. Address "COTTON MILL," care MANUFACTURERS' RECORD. S2

WANTED—Locomotive Engineer desires a position as Locomotive Engineer or at stationary engine running. Have no objection to a log train engine on any short line. Two years' experience. Would not object to a good job firing. Address "ENGINEER," care MANUFACTURERS' RECORD. A26

WANTED—Scientific and Practical MILLER wants to run a good flouring mill (50-bbl. upwards) on salary or shares. References or month's trial. Address "LEO," care MANUFACTURERS' RECORD. S2

WANTED—A Competent Stenographer desires a position in Western or Southern States. Machinery, foundry or manufacturing establishment preferred. Address "STENOGRAPHER," care MANUFACTURERS' RECORD. A26

WANTED—A young man desires to obtain position with large reputable manufacturing house with view of becoming a drummer. Best of reference furnished. Address "DRUMMER," care MANUFACTURERS' RECORD. A26

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This list of representative Southern lumber merchants and manufacturers is published for the benefit of those who desire to reach responsible houses in this branch of business in the South. Readers of the MANUFACTURERS' RECORD who have occasion to correspond with any of the firms mentioned below will confer a favor by mentioning this paper.

Yellow Pine.

I. B. Gordon & Co., Alpine, Ala.
Villa Rica Lumber Co., Anniston, Ala.
J. R. Adams & Sons, Birmingham, Ala.
Hawkins & Smith, Birmingham, Ala.
C. T. Hughes & Co., Birmingham, Ala.
Riddle & Simpson, Birmingham, Ala.
Southern Supply Co., Birmingham, Ala.
Marbury & Jones, Bozeman, Ala.
D. W. & U. Blacker, Brewton, Ala.
W. W. Weaver, Castleberry, Ala.
J. A. Dudley, Clanton, Ala.
O. A. Duke, Clanton, Ala.
L. B. Wells, Clanton, Ala.
H. C. Higman & Co., Decatur, Ala.
Dunham Lumber Co., Dunham, Ala.
Gadsden Lumber Co., Gadsden, Ala.
Tuscaloosa Lumber Co., Hull, Ala.
Bay City Lumber Co., Mobile, Ala.
E. B. Vaughan, Mobile, Ala.
Alabama Lumber Syndicate, Montgomery, Ala.
S. R. Allen & Co., Montgomery, Ala.
W. A. Drives & Co., Montgomery, Ala.
Moore, Kirkland & Co., Montgomery, Ala.
Wagar Lumber Co., Wagar, Ala.
W. W. Wadsworth, Wadsworth, Ala.
Arkadelphia Lumber Co., Arkadelphia, Ark.
Empire Lumber Co., Ashton, Ark.
Long B-H Lumber Co., Buckner, Ark.
Cotton Belt Mill Co., Cotton Belt, Ark.
Eagle Lumber Co., Eagle Mills, Ark.
Red River Lumber Co., New Lewisville, Ark.
A. J. Neimeyer Lumber Co., Waldo, Ark.
Fordyce Lumber Co., Fordyce, Ark.
The Florida Phosphate Co., Ltd., Phosphoria, Fla.
J. S. Betts & Co., Ashburn, Ga.
Gress Lumber Co., Atlanta, Ga.
Donaldson Lumber Co., Donaldsonville, Ga.
Ocean Springs Lumber Co., Ocean Springs, Miss.
Perkins Manufacturing Co., Augusta, Ga.
Stillwell, Millen & Co., Savannah, Ga.
F. F. Putney, Hardaway, Ga.
Charles Bewick & Co., Hazlehurst, Ga.
Alderfer & Bull, Isabella, Ga.
Hogan & Winger, Kensington, Ga.
J. A. Williams, Sumner, Ga.
A. J. Duncan & Co., West Bowersville, Ga.
W. E. Mayne, Carpenter, Ky.
P. Hendrickson, Conant, Ky.
Perkins & Miller Lumber Co., Ltd., Westlake, La.
Lock-Moore & Co., Ltd., Westlake, La.
R. J. Aycock, Longstreet, La.
C. P. Brasher, Marthaville, La.
Joseph Horst, Maugansville, Md.
Elliott, Crawford & Co., Myrtle, Miss.
P. B. Myers & Son, Myrtle, Miss.
R. J. Cansey, West, Miss.
Cary E. Spence, Pass Christian, Miss.
Keystone Lumber & Imp. Co., Rogue Clitto, Miss.
Page Lumber Co., Aberdeen, N. C.
The Greenville Land & Imp. Co., Greenville, N. C.
Gulfport Lumber Mfg. Co., Greensboro, N. C.
R. F. Moss, Booker, Va.
The A. F. Withrow Lum. Co., Millboro Depot, Va.
U. B. Simpson & Son, Naruna, Va.

North Carolina Pine.

Goldsboro Lumber Co., Goldsboro, N. C.
G. Vyne & Son, Wilkesboro, N. C.
John Hickson & Co., Lynchburg, Va.

Cypress.

Morris & Englund, Keo, Ark.
Cypress Lumber Co., Sherrill, Ark.
T. O. Wilson Lumber Co., Tillar, Ark.
Nuchner & Brown, Peach Orchard, Ark.
Moline Lumber Co., Helena, Ark.
J. M. Milburn & Bro., Greenway, Ark.
J. C. McCain, Greenway, Ark.
Lawless & Kyle, Franklin, La.
Louisiana Cypress Lumber Co., Harvey, La.
Lutcher & Moore Lumber Co., Lutcher, La.
Callahan & Lewis Mfg. Co., Patterson, La.
W. R. Emerson, Emerson, Fla.
J. C. Burleigh, Midland, Fla.
F. S. Bamberg, Jasper, Fla.
S. J. Temple, Temple's Mills, Fla.
J. P. Little, Sumner, Fla.
Geo. H. Barker, Waldo, Fla.
A. A. Bunnell, Kaulerona, Fla.
Windemere Land & Lumber Co., Windemere, Fla.
Kelly, Cosby & Co., Jug Tavern, Ga.
Dietrich & Dopson, Lenox, Ga.
W. T. McArthur, McArthur, Ga.
W. H. Moxley & Co., Macon, Ga.
W. R. Peterson & Co., Wadley, Ga.
McEwen & Murray, New Orleans, La.
Hanson & Smith, Wilmington, N. C.
J. C. Fulton, Aransas Pass, Texas.
Calcasieu Lumber Co., Austin, Texas.
M. T. Jones & Co., Childress, Texas.
J. H. Folkey, Knoxville, Texas.

Hardwoods.

Martin & Vaughan, Bellefonte, Ala.
North Alabama Lumber Mfg. Co., Bridgeport, Ala.
Bridgeport Lumber Co., Bridgeport, Ala.
Hill & Mitchell, Center Star, Ala.
W. A. Koepfel, Coaling, Ala.
Decatur Lumber Co., Decatur, Ala.
H. S. Freeman, Decatur, Ala.
Black Warrior Lumber Co., Demopolis, Ala.
Alabama Lumber & Mfg. Co., Gurley, Ala.
C. G. Huffman, Hollywood, Ala.
Clifton & Hendrix, Jasper, Ala.
Elliott & Carter, Jasper, Ala.
W. M. Beatty, Austin, Ala.
J. W. Ray, Arkadelphia, Ark.
Desha Lumber Co., Arkansas City, Ark.
Batesville Lumber Co., Batesville, Ark.
Russell & Elder, Beebe, Ark.
South'n Hardwood Lumber Co., Black Rock, Ark.
E. M. Ford Land & Timber Co., Gilmore, Ark.
Kelley & Wells Lumber Co., Newport, Ark.
Cream City Lumber Co., Lamberthville, Ark.
J. M. Meffert, Lowell, Fla.
Ray & Geise, Bronwood, Ga.
Altamaha Cypress Lumber Co., Brunswick, Ga.
Montford & Mitchell, Butler, Ga.
Glasgow & Henderson, Cassville, Ga.
Green & Eshum, Clay Hill, Ga.
W. H. Allen, Cordele, Ga.
Greer Bros., Ada, Ga.
D. T. Harris, Dixon, Ga.
W. T. Opie, Dover, Ga.
A. J. McMullen, Hartwell, Ga.
Matthews & Anderson, Knoxville, Ga.
R. W. Ballard, Newton Factory, Ga.
O. W. Wadley, Rogers, Ga.
L. T. Brawner, Adairville, Ky.
G. W. Hummer, Adairville, Ky.
W. Conn & Son, Bedford, Ky.
Snider Bros., Berea, Ky.
Gibson & Hale, Flat Lick, Ky.
J. L. Naylor, Wickliffe, Ky.
Samuel Anglen, Lafayette, Ky.
H. E. Miller, Lewisburg, Ky.
Fetter Cochran & Co., Louisville, Ky.
J. C. Williamson, Mouth of Pond, Ky.
The Cumberland Co., Middlesborough, Ky.
Waters & Bringham, Pineville, La.
J. H. McBride, Winnfield, La.
The Loomis & Hart Mfg. Co., Chattanooga, Tenn.
Smith & Co., Reedy Ripple, W. Va.
Shelly & Wirgman, Romney, W. Va.

Shingles.

A. C. Danner, Mobile, Ala.
J. Bradley, Hartsell's, Ala.
Concub & Patsaliga Lumber Co., Luverne, Ala.
G. N. Buchanan, Luverne, Ala.
J. D. Cameron & Son, Mobile, Ala.
Mobile Shingle Co., Mobile, Ala.
Mountain & Sons, Mobile, Ala.
C. G. Richards & Son, Mobile, Ala.
Stewart & Butt, Mobile, Ala.
Gulf States Lumber Co., Montgomery, Ala.
D. Goulet & Co., Black Rock, Ark.
F. McKay, Black Rock, Ark.
Camden Shingle Mill Co., Camden, Ark.
Price Lumber Co., Paragould, Ark.
Carey & Ollinger, Bagdad, Fla.
A. L. Wellman & Co., Beresford, Fla.
Florida Shingle Mills, Brooksville, Fla.
W. Springstead & Son, Brooksville, Fla.
Mearns Shingle Mill, Davenport, Fla.
Wm. A. McCann, Jacksonville, Fla.
A. G. Russel, Oviedo, Fla.
Little & Chapman, Rosewood, Fla.
Atlanta Lumber Co., Atlanta, Ga.
P. G. Grant, Atlanta, Ga.
T. E. Collier, Cordele, Ga.
King & Bursch, Hawkinsville, Ga.
Yarbrough & Perry, Fullington, Ga.
Ino. Akers & Co., Scotland, Ga.
Baily Bros., Toccoa, Ga.
Mayfield Shingle Co., Wishart, Ga.
Worth Lumber Co., Worth, Ga.
G. W. Clere, Coalton, Ky.
Montroe Smith, McKinney, Ky.
The J. H. Poe Shingle Co., Lake Charles, La.
Harris & Thornton, Chattanooga, Tenn.
L. Miller Shingle Co., Orange, Texas.
Kizer Lumber Co., Texarkana, Texas.
Fritz Sitterding, Richmond, Va.
Gurley & Rogers, Norfolk, Va.
Nottingham & Wrenn, Norfolk, Va.
Ino. L. Roper Lumber Co., Norfolk, Va.

Staves and Heading.

F. W. Sharp & Co., Larkinsville, Ala.
J. R. Adams & Son, Longview, Ala.
Montgomery Stave & Bldg. Co., Montgomery, Ala.
J. C. Sheets & Co., Montgomery, Ala.
P. V. Deland, Black Rock, Ark.
Hammett & Bailey Stave Co., Greenway, Ark.
Arkansas Stave Works, Greenway, Ark.
J. F. Hasty & Son, Paragould, Ark.
G. M. Rosegrant, Paragould, Ark.
Wilson Bros., Piggott, Ark.
Backus Bros., Pine Bluff, Ark.
Little Rock Cooperage Co., Little Rock, Ark.
Tampa Lumber Co., Tampa, Fla.
Hagan & Platt, Pine Level, Fla.
R. H. Brewer, Cedar town, Ga.
Georgia & Tennessee Lumber Co., Laconte, Ga.
F. H. Waring & Co., Cement, Ga.
Allen & Briggs, Bardwell, Ky.
F. B. Freeman, Cumberland Falls, Ky.
Johnson & Overshiner, Hopkinsville, Ky.

T. H. Meehan, Louisville, Ky.
J. G. Evans & Co., Moorehead, Ky.
Tippett & Co., Moorehead, Ky.
Edward Farley, Paducah, Ky.
Lester & Little, Sloans Valley, Ky.
Pinnell & Webb, Somerset, Ky.
George D. Eike, New Orleans, La.
E. O. Felton, Ronceverte, W. Va.
J. Beckwith & Co., Waverly, W. Va.

Railroad Ties.

W. J. Felt, Greenup, Ky.
G. & A. Kopp, Louisville, Ky.
Southern Tie & Lumber Co., Louisville, Ky.
James S. Pope, Halls, Md.
P. L. Conquest & Co., Norfolk, Va.

Spokes and Handles.

Jacob Wise & Son, Fulton, Ky.
Paducah Handle Works, Paducah, Ky.
Hendersonville Mfg. Co., Hendersonville, N. C.
Rutherfordton Sp. & Hdl. F'y, Rutherfordton, N. C.
C. J. Dundas, Statesville, N. C.
Thomasville Spoke Works, Thomasville, N. C.
Johnson Bros., Brownsville, Tenn.

Southern Real Estate Directory.

For the convenience of the many readers of the MANUFACTURERS' RECORD it has been deemed advisable to collect under this head a reliable list of Realty Agencies of the Southern States. The value of such a list for the purpose of Ready Reference will immediately become apparent to all who are interested in the growth of this section.

DISTRICT OF COLUMBIA.

WASHINGTON, D. C.—Chas. A. McEuen, Real Estate, Loans and Insurance. 1420 F. St.

GEORGIA.

AUGUSTA—Mullerlin & Armstrong, Real Estate and Insurance. Loans negotiated.
MACON—American Investment & Loan Co. owns valuable Real Estate in and around Macon. Real estate secured for investors.
SAVANNAH—Jackson & Whitley, Counselors at Law. Real Estate and Collection Department. W. G. Woodfin, manager.

NORTH CAROLINA.

MARION—W. H. Roberts & Co., Real Estate, banking and insurance.
ROCKY MOUNT—Geo. S. Sartin, Town Lots, Acre Property, Farms.
NORTH WILKESBORO—W. F. Trogdon, Town Lots and Farm Lands.
OLD FORT—O. H. Blocker, Real Estate, Timber and Mineral Lands.
RALEIGH—J. M. Broughton & Co., Real Estate, city and country realty.
STATESVILLE—P. C. Carlton, Real Estate, Timber and Mineral Lands.
WINSTON—E. B. Amls, Real Estate. First-class investments a specialty.

SOUTH CAROLINA.

COLUMBIA—Geo. W. Parker & Co., Real Estate and Insurance. Loans Negotiated.
COLUMBIA—Sale & Simmons, Real Estate, Stocks and Bonds. Loans negotiated.

TENNESSEE.

MEMPHIS—Hodge & Bro., 59 Madison St., Real Estate Agents and Dealers.

VIRGINIA.

CHARLOTTESVILLE—J. C. McKennie & Co., Real Estate and Insurance Brokers.
NEWPORT NEWS—W. E. Barrett & Co., Real Estate & Ins. Correspondence solicited.
NEWPORT NEWS—Cottrell & Fitzsimmons, Real Estate. Correspondence invited.
NORFOLK—A. W. Cornick & Co., Real Estate Agents, 102 Main Street.

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PROPOSALS.

TREASURY DEPARTMENT, Office Supervising Architect, Washington, D. C., August 22, 1892. SEALED PROPOSALS will be received at this office until 2 o'clock P. M., on the 14th day of September, 1892, and opened immediately thereafter, for all the labor and materials required for furnishing and fixing in place complete, the Low Pressure Return-Circulation Steam Heating and Ventilating Apparatus for the U. S. Custom-House, Postoffice and Court-house Building at El Paso, Texas, in accordance with the drawings and specification, copies of which may be had on application at this office or the office of the Superintendent at El Paso, Texas. Each bid must be accompanied by a certified check for a sum not less than 2 per cent. of the amount of the proposal. The right is reserved to reject any and all bids, or to waive any defect or informality in any bid, if it be deemed in the interest of the Government to do so. All proposals must be enclosed in envelopes, sealed and marked "Proposal for the Low-Pressure, Return-Circulation, Steam-Heating and Ventilating Apparatus for the U. S. Custom-House, Postoffice and Courthouse at El Paso, Texas," and addressed to W. J. EDBROOKE, Supervising Architect.

TREASURY DEPARTMENT, Office Supervising Architect, Washington, D. C., August 13, 1892. SEALED PROPOSALS will be received at this office until 2 o'clock P. M. on the 7th day of September, 1892, and opened immediately thereafter for furnishing all the low pressure, return circulation, steam heating and ventilating apparatus for the U. S. Court House and Post-office building at Statesville, N. C., in accordance with drawings and specification, copies of which may be had on application at this office, or the office of the Custodian at Statesville, N. C. Each bid must be accompanied by a certified check for a sum not less than 2 per cent. of the amount of the proposal. The right is reserved to reject any or all bids and to waive any defect or informality in any bid if it be deemed in the interest of the Government to do so. All bids received after the time stated will be returned to the bidders. Proposals must be enclosed in envelopes, sealed and marked Proposal for the low pressure, return circulation, steam heating and ventilating apparatus for the U. S. Court House and Postoffice Building at Statesville, N. C., and addressed to W. J. EDBROOKE, Supervising Architect.

TREASURY DEPARTMENT, Office, Supervising Architect, Washington, D. C., August 8th, 1892. SEALED PROPOSALS will be received at this office until 2 o'clock P. M. on the 30th day of August, 1892, and opened immediately thereafter, for furnishing all the New Steam and Return Risers, New Radiators, Removing Old Coil Radiators, &c., for the U. S. Courthouse and Postoffice Building at New York City, N. Y., in accordance with the drawings and specification, copies of which may be had on application at this office or the office of the Superintendent at New York City, New York. Each bid must be accompanied by a certified check for a sum not less than 2 per cent. of the amount of the proposal. The right is reserved to reject any or all bids and to waive any defect or informality in any bid if it be deemed in the interest of the Government to do so. All bids received after the time stated will be returned to the bidders. Proposals must be enclosed in envelopes, sealed and marked "Proposal for the New Steam and Return Risers, New Radiators, &c., for the U. S. Courthouse and Postoffice Building at New York City, N. Y., and addressed to W. J. EDBROOKE, Supervising Architect.

TREASURY DEPARTMENT, Office Supervising Architect, Washington, D. C., August 12, 1892. SEALED PROPOSALS will be received at this office until 2 o'clock P. M. on the 6th day of September, 1892, and opened immediately thereafter for furnishing all the Low-Pressure, Return-Circulation, Steam-Heating and Ventilating Apparatus for the United States Courthouse, Postoffice and Custom-house Building at Vicksburg, Miss., in accordance with the drawings and specification, copies of which may be had on application at this office or the office of the Superintendent at Vicksburg, Miss. Each bid must be accompanied by a certified check for a sum not less than 2 per cent. of the amount of the proposal. The right is reserved to reject any or all bids and to waive any defect or informality in any bid if it be deemed in the interest of the Government to do so. All bids received after the time stated will be returned to the bidders. Proposals must be enclosed in envelopes, sealed and marked "Proposal for the Low-Pressure, Return-Circulation, Steam Heating and Ventilating apparatus for the U. S. Courthouse, Postoffice and Custom house Building at Vicksburg, Miss.," and addressed to W. J. EDBROOKE, Supervising Architect.

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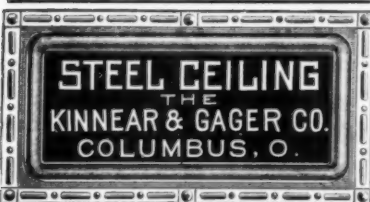
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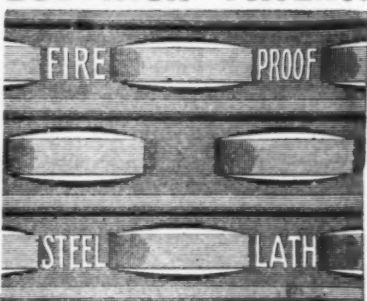
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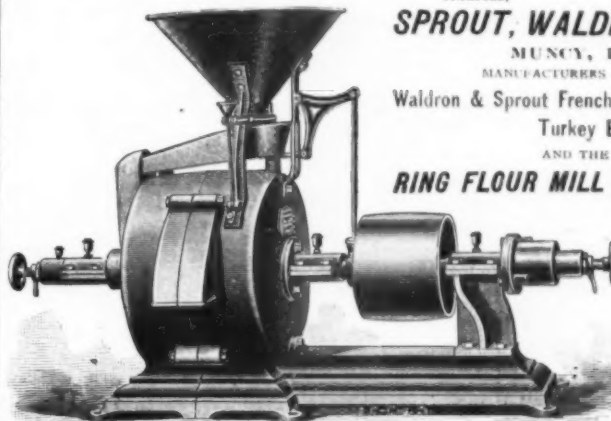
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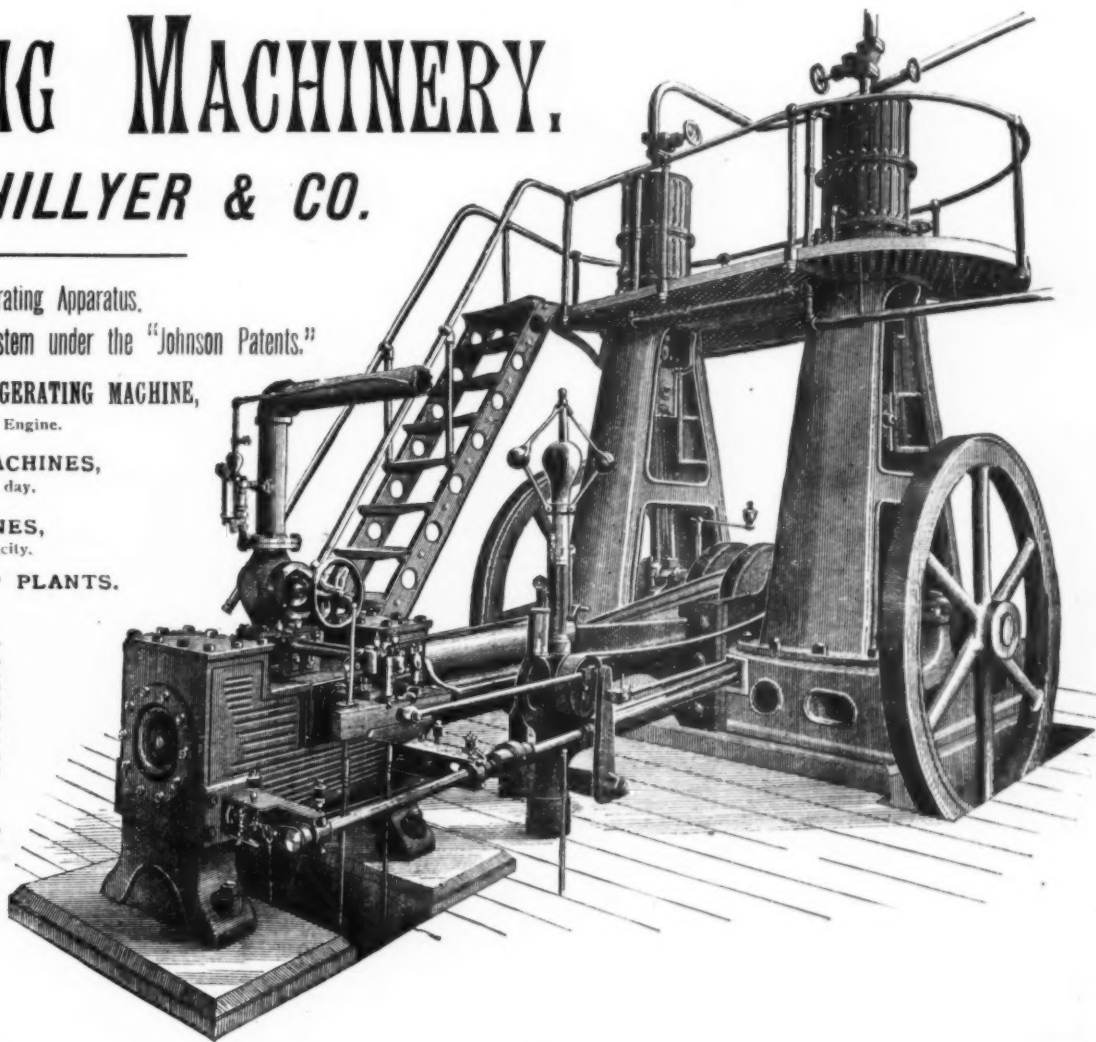
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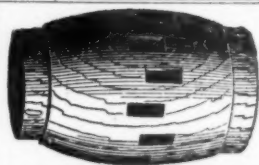
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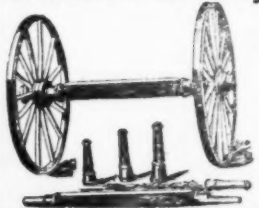
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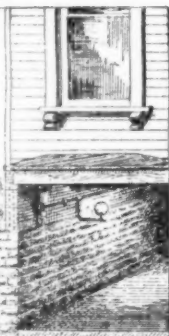
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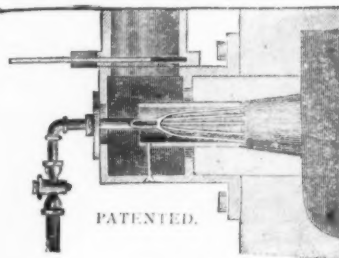
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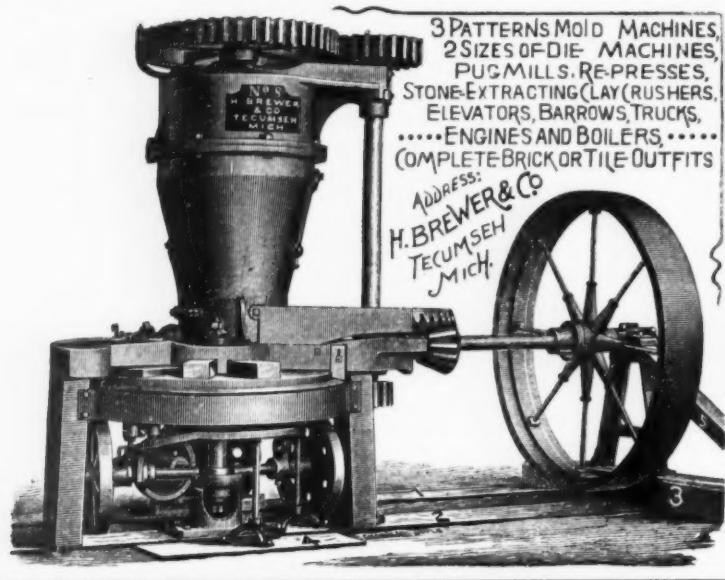
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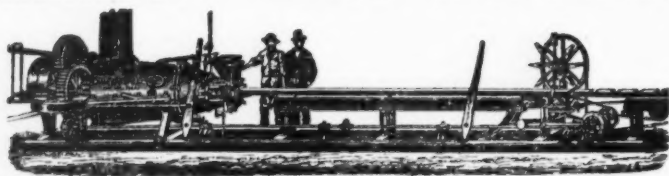
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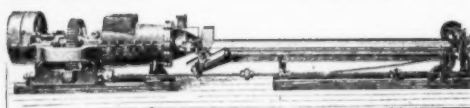
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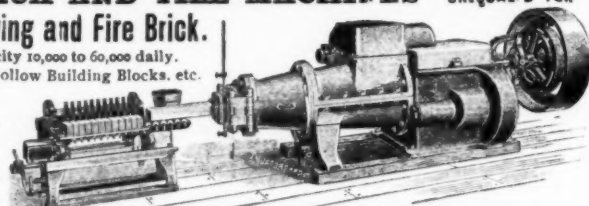
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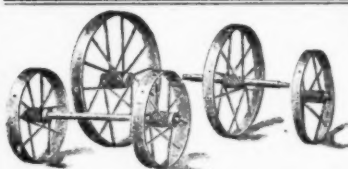
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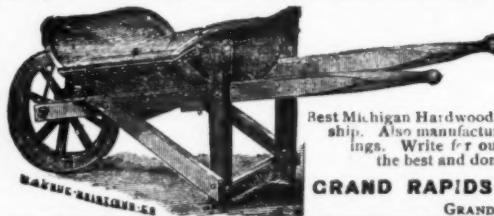
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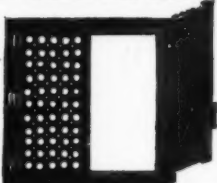
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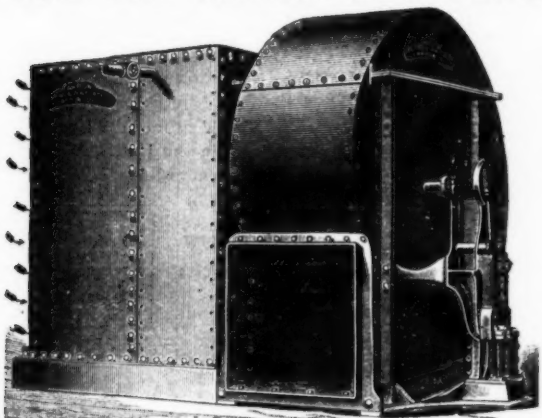
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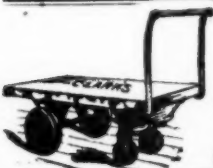
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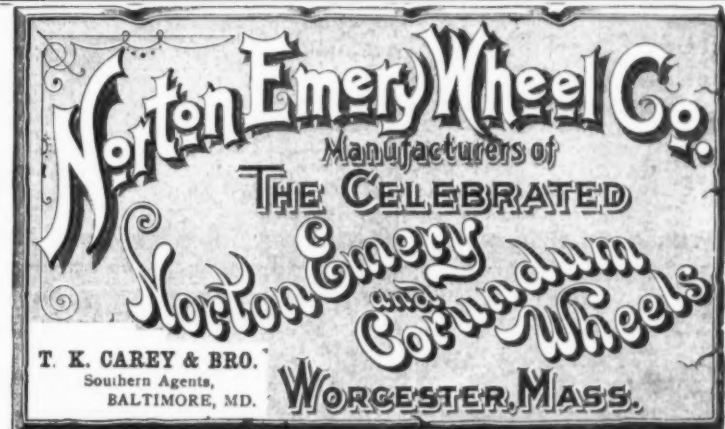
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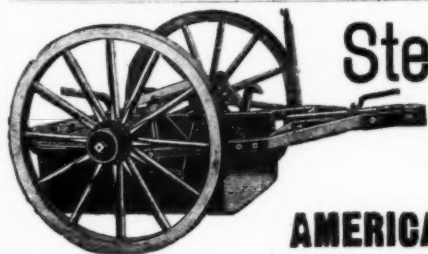
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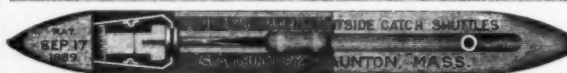
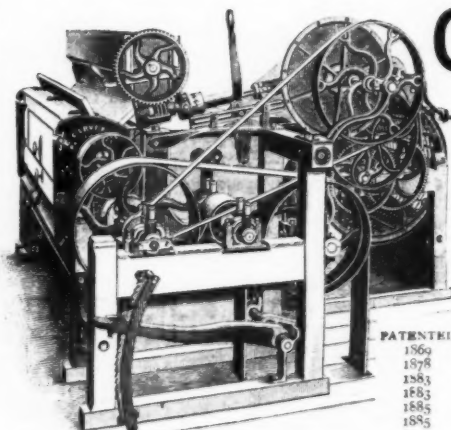
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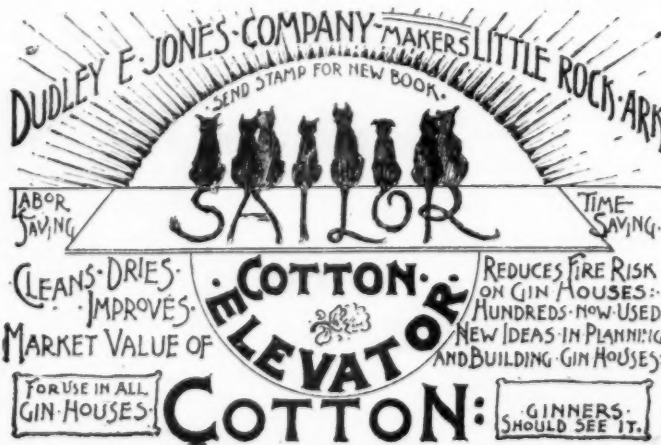
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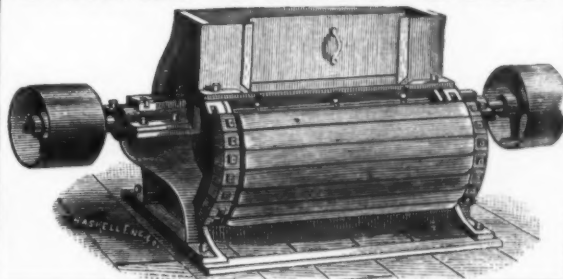
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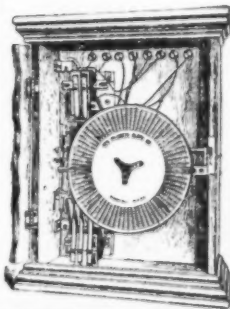
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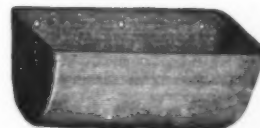
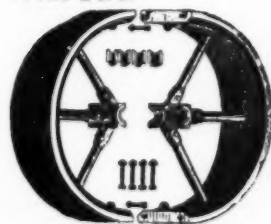
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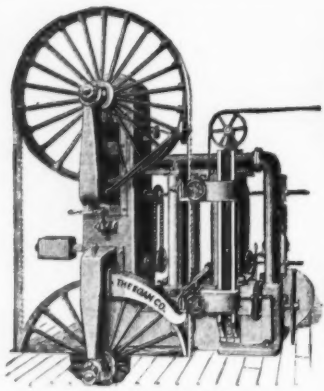
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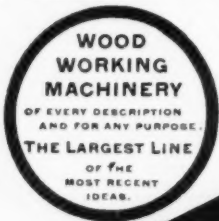
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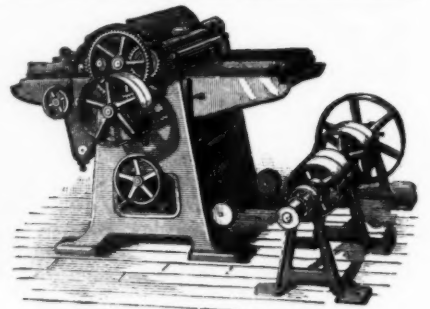
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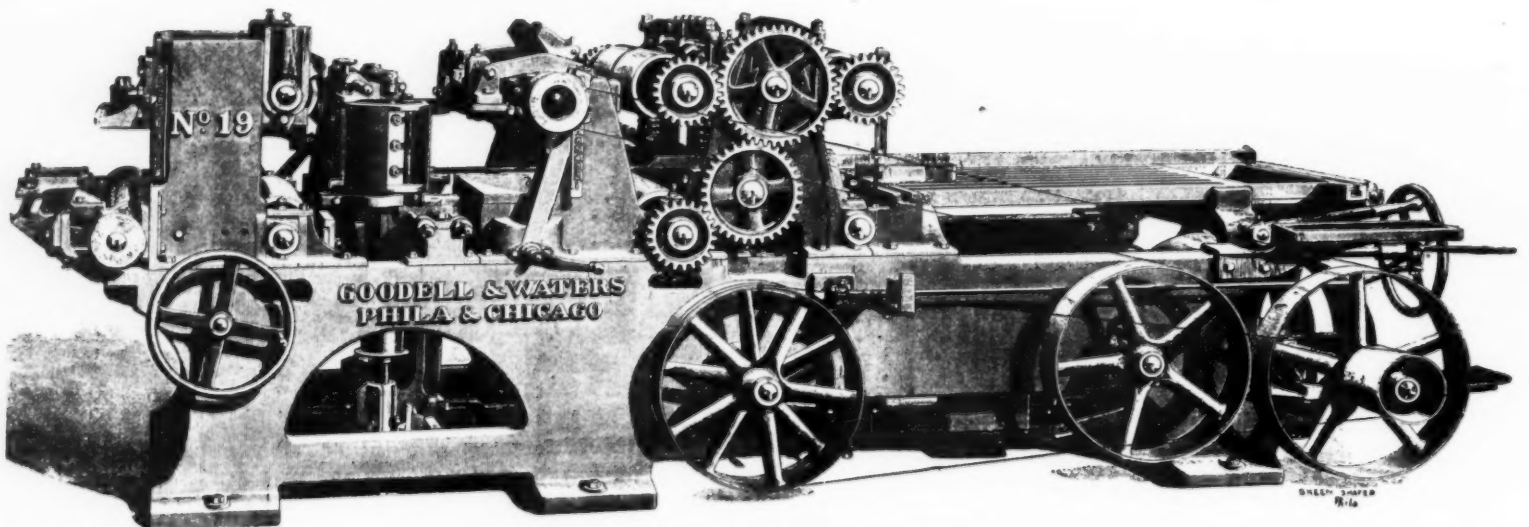
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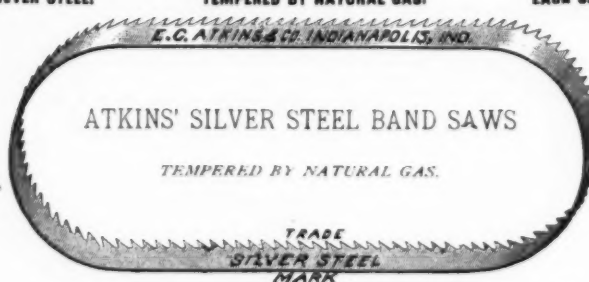
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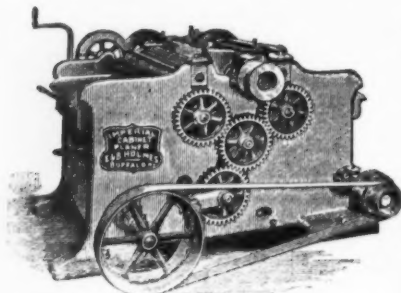


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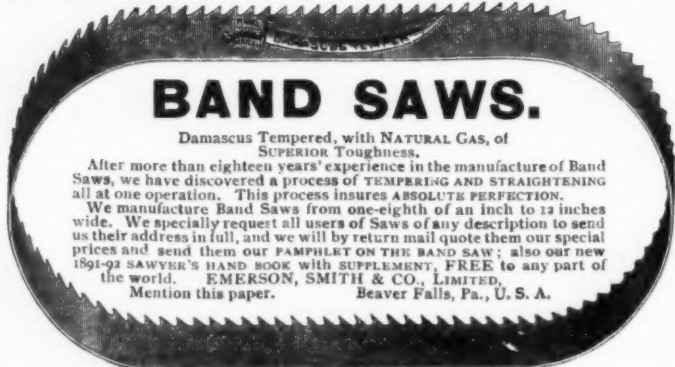
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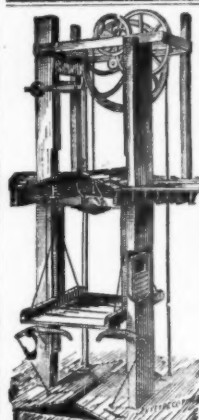
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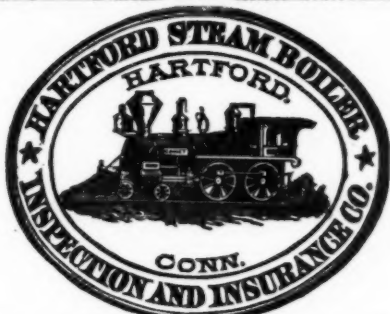
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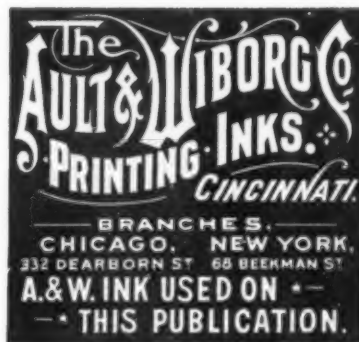
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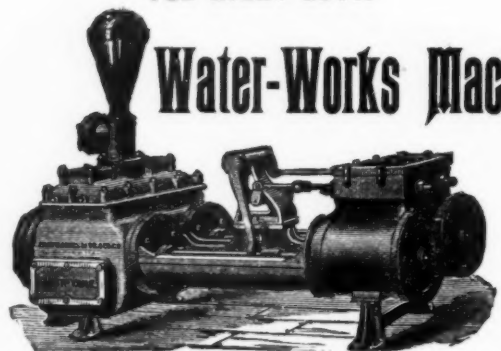
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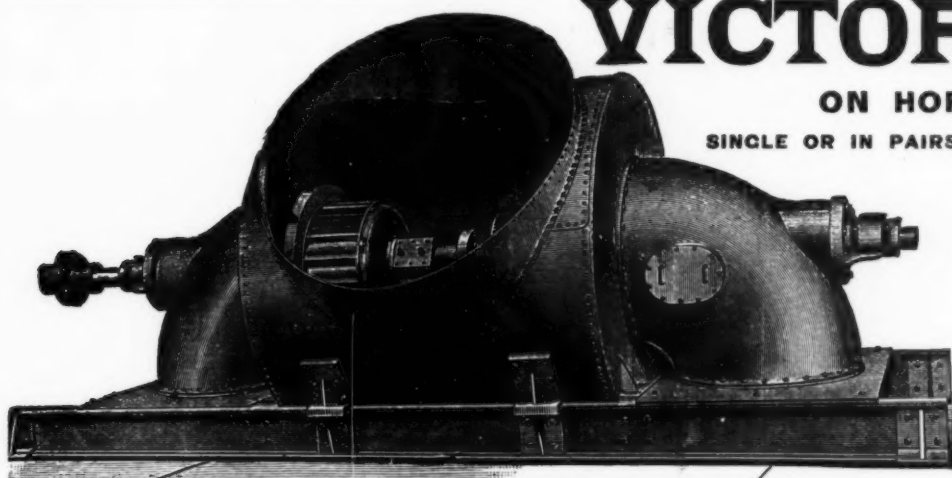
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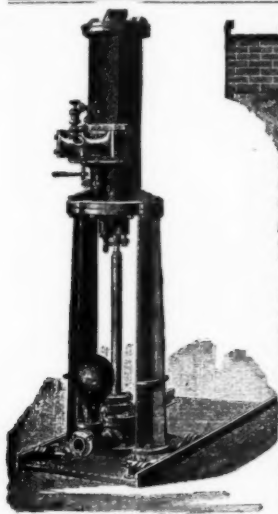
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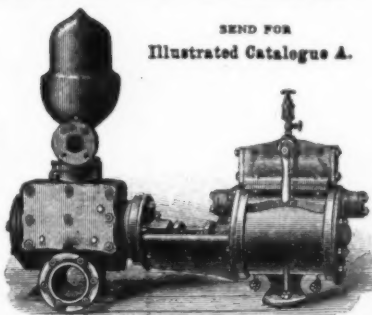
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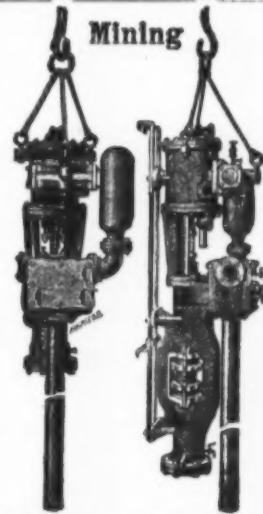
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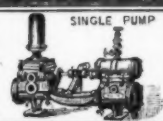
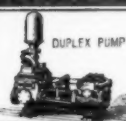
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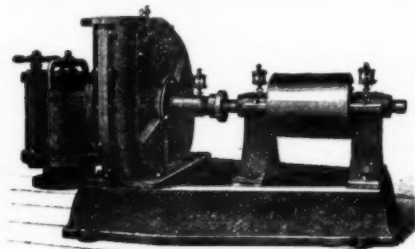
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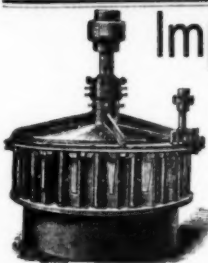
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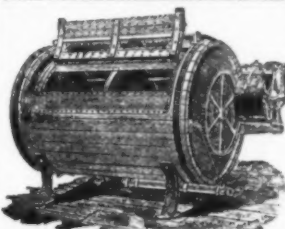
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OFFERS GREATER OPPORTUNITIES TO

SETTLERS,

MANUFACTURERS AND GENERAL

BUSINESS ENTERPRISES

than any other part of the U. S., vast bodies of

COAL, IRON, TIMBER AND FARM LANDS.

Also THOUSANDS OF ACRES OF LONG LEAF YELLOW PINE for sale cheap.

This road runs through the thriving towns of Lexington, Danville, and Somerset, Ky.; Rockwood, Harriman, and Chattanooga, Tenn.; Ft. Payne, Attalla, Birmingham, and Tuscaloosa, Ala.; Meridian, Hattiesburg, Jackson and Vicksburg, Miss.; New Orleans, Delhi, Monroe, and Shreveport, La. Some of the new towns will donate money and land to locate Manufacturing enterprises.

The R. R. Co. will make low rates for Passengers and Freight, and afford investors every opportunity to examine the different localities. If necessary, will send a representative with the party.

Full particulars, and any required information, will be sent by mail on application to

D. G. EDWARDS, G. P. & T. Agt.

Q. & C. Route, CINCINNATI, O.

THE FAVORITE PASSENGER ROUTE.

MERCHANTS & MINERS' Transportation Company.

Steamers sail from Baltimore, Md., TO BOSTON, MASS., VIA NORFOLK, every TUESDAY and THURSDAY at 4 P. M. and SUNDAY at 10 A. M. FARE—Main Saloon \$12.50. Round trip, \$22.00. Upper Deck, \$14.00. Second class, \$10.00.

FOR PROVIDENCE, R. I., every TUESDAY and THURSDAY at 4 P. M.

FOR SAVANNAH, GA., every TUESDAY and FRIDAY at 3 P. M. Fare—First class, \$15.00; round trip, \$28.00; second class, \$10.00.

Baltimore TO JACKSONVILLE, FLA.—First class, \$20.65; round trip, \$36.30; steerage, \$12.50. All tickets include meals and stateroom accommodations. Through tickets sold and baggage checked to all points South.

For sailing schedules and other information, apply to

A. L. HUGGINS, Agent,

Foot of Long Dock, Baltimore, Md.

J. C. WHITNEY, Traffic Manager,

No. 216 Water Street, Baltimore, Md.

BALTIMORE AND EASTERN SHORE RAILROAD COMPANY.

BALTIMORE & EASTERN SHORE RAILROAD SUMMER SCHEDULE, in effect JUNE 27, 1892. Leave Pier No. 9, Light street, by Steamer B. S. Ford, daily (except Sunday) for Claiborne, thence by rail for Ocean City and intermediate points, 7:00 A. M. and 3:45 P. M.

Arrive from the above points 3:00 P. M. and 11:00 P. M., except the 11:00 P. M. on Sundays instead of Saturdays.

Freight received and forwarded every weekday for all points on the Eastern Shore.

Full particulars at Office, Pier No. 9 Light street wharf, or to the undersigned.

Cheap Day Excursion to Claiborne. Write or call for information.

A. J. BENJAMIN, Superintendent,

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Receiver and General Manager.

ATLANTIC TRANSPORT LINE.

BETWEEN BALTIMORE AND LONDON.

Calling at Swansea and Philadelphia on the outward passage.

S.S. Minnesota, 5,000 tons. S.S. Missouri, 4,200 tons.

S.S. Maryland, 4,200 tons. S.S. Michigan, Bldg.

S.S. Montana, 4,200 tons. S.S. Mississippi, Bldg.

S.S. Maine, 4,150 tons.

BALTIMORE STORAGE & LIGHTERAGE CO.

236 La Salle Street, Chicago, Ill. and 10 Fenchurch Street, London.

400 Second Street, Baltimore, Md.

THE BAY LINE

Fortress Monroe, Norfolk and the South.

The Bay Line comprises the New and Elegant Steamers

"VIRGINIA," "CAROLINA" and "FLORIDA."

All the Comforts and Luxuries of a First-Class Hotel are afforded the traveler. Spectacular and elegant balconies and staterooms, furnished with an especial view to comfort. Unsurpassed Cuisine, which is made a specialty with this line. Elegant service and courteous attention.

Steamers leave Baltimore only (except Sundays) at 9 P. M. At Old Point Comfort is located the **SPLENDID HYGIEA HOTEL**, a delightful resort at all seasons of the year. For Tickets and information apply at Company's office.

157 W. BALTIMORE STREET, BALTIMORE.

Or on Board of Steamers.

D. J. HILL, Superintendent.

E. BROWN, General Ticket Agent.

RICHMOND AND YORK RIVER LINE.

On and after MONDAY, February 20, 1892, the

steamers of this line leave Baltimore daily (Sunday excepted) at 5 P. M. for West Point, Richmond and the South, arriving at Richmond at 9:10 A. M., connecting with trains of the Richmond & Danville System. Steamer leaving Mondays, Wednesdays and Fridays calling at Gloucester Point and Allmond's Wharf; steamer leaving Tuesdays, Thursdays and Saturdays calling at Yorktown and Clay Bank. Through tickets and bills of lading issued to all points of the Richmond & Danville System. Way freight must be prepaid. Fare to Richmond, first class, \$2.00, second class, \$1.50. Tickets sold and baggage checked at Geigan & Co.'s, 205 East Baltimore Street.

REUBEN FOSTER, E. J. CHISM,

General Manager. Gen. Freight & Ticket Agt.

Office, 530 LIGHT STREET.

MURRELL'S LINE

FROM

BRUNSWICK to LIVERPOOL and BREMEN.

The Only South Atlantic Direct Line to European Ports.

SHORTEST ROUTE TO EUROPE.

Commencing September 30th, 1892, the following

Steamships will make regular sailings from Brunswick, Ga., to Liverpool and Bremen:

Steamship. Tons. Master.

WIVENHOE, 1895, CLARK.

HAY-GREEN, 1865, BLACKLAW.

J. M. LOCKWOOD, 1772, JENKINS.

STORRA-LEE, 1734, BAILEY.

DEERHILL, 1733, BAINBRIDGE.

Additional Steamships will be placed on the

line as business warrants.

S. S. DEERHILL will sail from Liverpool for

Brunswick September 1st.

S. S. HAY-GREEN will sail from Brunswick

for Liverpool September 30th.

Consignments solicited to all points in United

Kingdom and Continent of Europe.

For Freight, Passage and general information

apply to

THE BRUNSWICK TERMINAL CO.

General Agents, BRUNSWICK, GA.

Or Messrs. C. E. DEWOLF & Co., Agents,

24 Brunswick Street, Liverpool, England.

POPULAR AND DIRECT ROUTE.

THE BAY LINE

For Old Point Comfort, Norfolk

and the South.

Steamers leave daily (except Sunday) Union

Dock 6:30 P. M., Canton Wharf 7 P. M.; arrive

Old Point Comfort 7 A. M., at Norfolk at 8 A. M.,

Portsmouth 8:15 A. M. At OLD POINT COM-

FORT connect with CHESAPEAKE & OHIO

RAILROAD for Richmond, Charlottesville,

Greenbrier, White Sulphur Springs, Louisville,

Cincinnati and all points West. At NORFOLK

with NORFOLK & WESTERN RAILROAD for

Petersburg, Richmond, Lynchburg, Roanoke,

Bristol, Knoxville, Chattanooga, Memphis and

the Southwest; also with the NORFOLK

SOUTHERN RAILROAD for Elizabeth City,

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PORTSMOUTH, VA., with SEABOARD &

ROANOKE RAILROAD for Weldon, Raleigh,

Southern Pines, Pine Bluff Health Resort, Peach-

land, Mount Holly, Charlotte, Fayetteville, New-

berne, Wilmington, Charleston, Columbia, Augusta,

Savannah, Jacksonville and all PRINCIPAL

SOUTHERN CITIES.

Police Steamers, Unsurpassed Cuisine, Un-

derbilled Night's Rest. Sure Connection.

For tickets and information apply at Com-

pany's Office, 129 E. Baltimore Street,

or on board steamers.

E. BROWN G. T. A. KENNEDY, Agt.

NORTH WILKESBORO,

NORTH CAROLINA,

One of the Conspicuous Successes of the Year in Town Building.
Presents the Following Record:

Population March 4, 1891, actual count, 48.

Population March 4, 1892, actual count, 348.

Gain in one year 625 per cent.

Townsite purchased November 11, 1890; act of incorporation passed by the Legislature, March 4, 1891; first lot sold at private sale, May 12, 1891. Within the first year of its existence ten miles of streets have been graded, and \$22,000 spent in public improvements. Where prior to March 4, 1891, there was only a farm settlement without pretensions to being even a village, there is to-day a thriving, busy, growing, trading and manufacturing center, with

A Large Well-Kept Hotel,
The Bank of North Wilkesboro, \$40,000 Capital,
A large Livery and Sale Stable,
Two Large Wholesale Stores,
One Hardware Store,
One Furniture Store,
Ten General Merchandise Stores,
Three Saw Mills, Sash and Blind Factories,
One Foundry and Machine Shop,
A Handsome, Well-Edited, Home Print Newspaper, The North Wilkesboro News,
One School,
Two Churches Under Way,

Two Brick Yards in operation, and a number of other enterprises practically secured.

Arrangements are about completed for a Woolen Mill.

A large iron front brick block, containing Bank Building, two Store Rooms, Opera House, and Printing Office; A graded School Building and an Iron Bridge across the Yadkin River, in the Eastern part of town, will be completed during the spring and summer.

Turnpike roads to Tennessee and Virginia are about completed; county roads leading into town are being improved and numerous good new ones built, with the intention of making this the center for all the wagon trade of this section.

A tobacco warehouse for the sale of the high grade leaf of this district will be built during the summer, so as to give a home market for the tobacco crop that will be grown this year.

Compare this record with that of any other new town you have heard of during the past dull season.

NORTH WILKESBORO,

Is 75 miles west of Winston-Salem, at the present terminus of the Northwestern North Carolina Railroad, which when ultimately completed to Bristol, Tenn., will give the shortest route between Norfolk and Cincinnati. North Wilkesboro is the most important trading point between Winston-Salem and Bristol, and is in the center of the great undeveloped mineral and timber district of Northwestern North Carolina, being by United States Postal Map on an air line 75 miles southeast of Bristol, 45 miles east of Cranberry, N. C., 40 miles north of Statesville, 45 miles northeast of Hickory, 90 miles northeast of Asheville, 45 miles southeast of Mt. Airy, and 80 miles south of the Norfolk & Western Railroad, in the valley of the Yadkin, between the Brushy Mountains on the South and the Blue Ridge on the North. Climate, healthfulness, water, drainage and location unsurpassed by any town in North Carolina.

The townsite consists of 1,088 acres, located, by the way on a farm originally owned by General John B. Gordon's grandfather. The first public auction sale of lots was held December 2, 1891, and 188 lots were sold. Purchasers have in many cases been able to resell at a handsome profit. The company has sold 50 lots at private sale since then, on many of which houses are now being erected. It is a significant fact that among the business buildings erected a large per cent. are substantial brick structures, while for architectural beauty and cost many of the residences are much superior to those usually found in a town so young.

At the second auction sale, May 11th, 1892, 35 business lots and 44 residence lots sold for \$16,490, an average of \$8.35 per front foot, which is \$2.53 per front foot (or 44 per cent.) more than the average at the sale last December, which was the best sale made in North Carolina during last year. Since the sale, a contract has been closed for the location of another large saw mill, planing mill, sash, door and blind factory combined, which will do a large shipping business. A contract is closed for the location of extract works with a capital stock of \$300,000. The plant will cost \$125,000 and will cover six acres of land. Twelve families from the North will move down. The company will erect a large electric-light plant in connection with the extract works. North Wilkesboro will get there and will not be long doing so.

Through the townsite runs a stratum of serpentine stone, 200 feet in width, and also a bed of iron ore equal in quality to that of Cranberry. The Town Company also owns 4,100 acres of mineral, granite and timber lands in Wilkes County. It is probable that the work of developing the great mineral and timber interests of the section will be commenced in a short time, and on an extensive scale.

Sites will be donated and stock subscribed to such manufacturing enterprises as may be advantageously located here.

The policy of the Company is a most liberal one in this respect, it being determined to aid all legitimate enterprises to any reasonable extent. There are 328 miles of water courses within the borders of Wilkes County, furnishing to the vicinity of North Wilkesboro a water power as great as Fall River. The climate, while not moist, is neither harsh nor dry, and is especially suitable to the spinning of fine cotton yarns, such as cannot be made in the extreme South or North. There is also a fine opportunity here for bleacheries, to the establishment of which at Southern points there is a tendency at present. As they can't go where sluggish streams, impregnated with vegetable matter, abound, the quick flowing streams of clear mountain water, so numerous about North Wilkesboro, afford everything desired. Numerous other industries will do well at North Wilkesboro, and will be most substantially encouraged to locate there.

Capitalists, Home Seekers, Health Seekers, Manufacturers of wood and iron, and many other industrial workers may well investigate North Wilkesboro's advantages.

The above-described townsite and other property belongs to the Winston Land & Improvement Co., which was chartered by act of Legislature, session of 1887; ratified March 4, 1887, chapter 82. Authorized capital \$1,000,000. Present capital stock \$125,000, all subscribed and paid up.

OFFICERS—G. W. HINSHAW, President, of Hinshaw & Medearis, Wholesale Merchants; Vice-President People's National Bank, Winston, N. C. DR. W. L. BROWN, Vice-President, of Brown Brothers, Tobacco Manufacturers, Winston, N. C. W. F. TROGDON, Secretary and Treasurer, North Wilkesboro, N. C.

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W. F. TROGDON, Secretary and Treasurer,

NORTH WILKESBORO, N. C.

As A LOCATION for Manufactures

Of Iron and Wood and for General Industrial and
Business Enterprises,

FRONT ROYAL, VA.

INVITES INVESTIGATION.

Its location, at the junction of the Norfolk & Western Railroad (Shenandoah Valley line) and the Richmond & Danville's branch, give it excellent transportation facilities. It is only a few hours' ride distant from Washington.

The Norfolk & Western's direct line to Washington will be built from Front Royal.

There is no Finer Agricultural Country in the World than the Famed Shenandoah Valley, in which Front Royal is Located.

A WIDE RIVER WITH SWIFT CURRENT FURNISHES WATER POWER
AND MAKES DRAINAGE PERFECT.

Front Royal is a Prosperous Town, with an Extensive Mercantile Business
and Many Manufacturing Enterprises in Operation and
Under Construction.

INVESTIGATION OF ITS ADVANTAGES IS INVITED BY THE

Front Royal--Riverton Improvement Company,

FRONT ROYAL. VIRGINIA.

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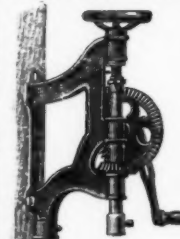


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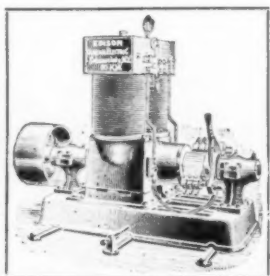
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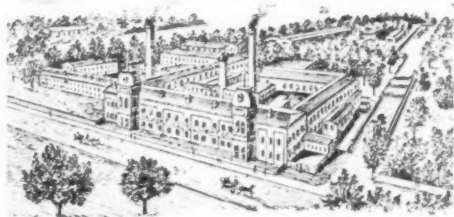
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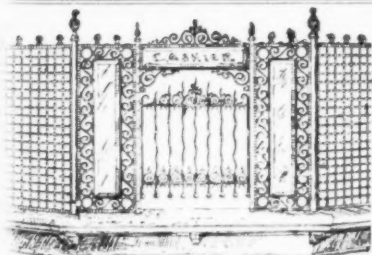
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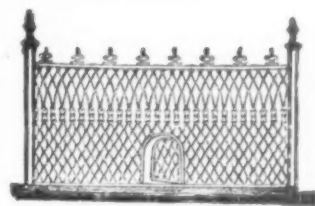
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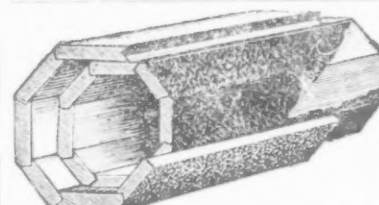
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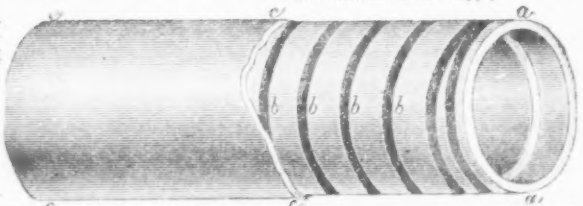
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